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ABSTRACT

This document is a transcript of hearings conducted in December 1981 on the reauthorization of the Vocational Education Act of 1963. The specific focus of the hearings was vocational education personnel development. The graduate leadership development program provides opportunities for experienced vocational educators to study full-time in an advanced study program for up to 3 years. The teacher certification fellowship program provides opportunities for unemployed, previously certified teachers and persons from business, industry, and agriculture to seek certification in vocational instructional areas in which a need for teachers has been identified. Major testimony was taken from state department personnel development staffs, university vocational teacher education directors, professors of vocational and technical education, and the assistant secretary for Vocational and Adult Education, U.S. Department of Education. The witnesses testified about the previous uses made of these programs and the need for them to continue under the reauthorization of the Vocational Education Act. Statistics were cited on how many people had become vocational education teachers, how many university vocational teacher educators had been prepared, and how many vocational teachers are still needed. Also examined were other programs under the provisions of this section of the act, including projects of national significance, the National Center for Research in Vocational Education, and vocational education personnel training. (KC)

HEARINGS ON REAUTHORIZATION OF THE VOCATIONAL EDUCATION ACT OF 1963

Part 9: Personnel Development

HEARING

BEFORE THE

SUBCOMMITTEE ON ELEMENTARY, SECONDARY, AND VOCATIONAL EDUCATION

OF THE

COMMITTEE ON EDUCATION AND LABOR HOUSE OF REPRESENTATIVES

NINETY-SEVENTH CONGRESS

FIRST SESSION

ON

H.R. 66

TO EXTEND THE AUTHORIZATION OF APPROPRIATIONS UNDER THE VOCATIONAL EDUCATIONAL ACT OF 1963

HEARING HELD IN WASHINGTON, D.C., ON DECEMBER 9, 1981

Printed for the use of the Committee on Education and Labor

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HEARING ON REAUTHORIZATION OF THE VOCATIONAL EDUCATION ACT OF 1963

Part 9: Personnel Development

WEDNESDAY, DECEMBER 9, 1981

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON ELEMENTARY, SECONDARY, AND VOCATIONAL EDUCATION, COMMITTEE ON EDUCATION AND LABOR,

Washington, D.C.

The subcommittee met, pursuant to call, at 9:30 a.m., in room 2175, Rayburn House Office Building, Hon. Dale E. Kildee, presiding.

Members present. Representatives Kildee, Washington, and Petri.

Staff present. John F. Jenning, counsel, Nancy Kober, legislative specialist, and Dr. Ethel Smith, associate professor, intern.

Mr. WASHINGTON. Will the Subcommittee on Elementary, Secondary, and Vocational Education please come to order.

Unfortunately, our chairman, Mr. Perkins, is delayed in flight. He's coming from Kentucky. As you know, there was a serious mining accident down there. We expect him to be here shortly.

The Subcommittee on Elementary, Secondary, and Vocational Education is continuing hearings today on the reauthorization of the Vocational Education Act. This morning we will be focusing on personnel development and teacher training.

Section 172 of the Vocational Education Act authorizes two national personnel development programs. The graduate leadership development program provides opportunities for experienced vocational educators to study full time in an advanced study program for up to 3 years.

The teacher certification fellowship program provides opportunities for unemployed, previously certified teachers and persons from business, industry, and agriculture to seek certification in vocational instructional areas in which a need for teachers has been identified. In addition, States may use funds under State vocational program improvement grants to support personnel training.

We are interested in learning what has been accomplished at both the State and national levels in the area of personnel development since the 1976 amendments to the Vocational Education Act. We would also like to know what the future needs for personnel development will be and any recommendations the witnesses may have for improving the Federal legislation.

We have a prestigious list of witnesses this morning. We will call forward for testimony this morning in one panel, if we may, Dr. Robert Worthington, accompanied by Dr. Duane Nielsen, and Ms. Muriel Shay Tapman, Dr. Rupert Evans, Dr. Maude Goldston, and Dr. George L. O'Kelley, Jr.

Let's see, who are we missing now? Dr. Rupert Evans? Come to the stand, please. Dr. Maude Goldston, would you sit at the table? Dr. George L. O'Kelley, Jr.

If it's all right with the witnesses, we will proceed in the order in which I listed them, leading off with Dr. Robert Worthington and, for the record, state your credentials, please, Doctor.

STATEMENT OF ROBERT WORTHINGTON, ASSISTANT SECRETARY FOR VOCATIONAL AND ADULT EDUCATION, U.S. DEPARTMENT OF EDUCATION

Dr WORTHINGTON Mr. Chairman, we appreciate the opportunity to appear before you this morning and we recognize you are under rather tight time constraints. We would like the privilege of submitting to you our written testimony. Plus, we have a backup document which gives statistics and program description in addition to that which Chairman Perkins had requested.

Chairman Perkins has asked us to report this morning on five programs in personnel development. You referred to one of those in your introductory remarks. Let me just very briefly highlight our testimony that we are submitting for the record.

Section 552 of the Education Professions Development Act made a significant impact on vocational teacher education and leadership development Its successor, section 172 of the 1976 amendments to the Vocational Education Act, the graduate leadership development program, was initiated in 1978. In that first year, over 6,000 requests were received for applications and 1,122 individuals applied for the 155 awards.

We have tables in our prepared documents which describe in detail those who applied for and received the awards.

Under the old EPDA Act, a relatively small number of women received fellowships for the graduate leadership development program; in 1970 only 13 percent. That percentage increased to 37 percent women in 1977. Under the current program, 78 of the 155 of the award recipients were female, a total of 50.3 percent. So, we have made significant improvement in that area.

In 1978, 12.3 percent of the recipients were minorities, including American Indians, Asians, Blacks, and Hispanics.

To be eligible to participate in this program, individuals had to have a minimum of 2 years of experience in vocational education or industry, military or technical training or social science research They had to be employed in vocational education or have a reasonable assurance of employment. They had to have completed a minimum of a baccalaureate degree and be recommended by their employer.

The funding for the graduate leadership development program approximated $1.7 million for each of the first 2 years and was reduced to $1 3 million in fiscal year 1981. Funds were not available to reopen the program to new awardees in fiscal year 1981. Each of

the 18 institutions in the program received $4,000 per year for each awardee enrolled at that institution.

This $4,000 per year is not adequate at the present time. It costs nearly $6,000 per year for residential support for the awardees in addition to their stipends and allowance for dependents.

There were 18 universities that had students enrolled in this program during 1978–81. There were 40 universities that qualified for the comprehensive vocational personnel development program. The 18 universities were actually chosen by the awardees. They indicated their choice of institutions and if an institution received five first-place choices by the awardees, they received a leadership grant.

The second program you requested information on was the teacher certification program. This program is also authorized by section 172 of the Education Amendments of 1976. This program provides fellowships for individuals certified as teachers in other fields during the last 10 years who desire to become certified as vocational teachers. These fellowships, for up to 24 months, are also available to individuals employed in industry.

The Secretary publishes before the beginning of each competition a listing of the areas of teacher shortages in vocational education. It was determined that this study would be done only at the beginning of the award cycle, and as there was only one award competition, the study has been completed only one time.

During this competition, 422 applications were received and reviewed from 49 States and fellowships were awarded to 188 applicants from 31 States who had been accepted for enrollment in the teacher certification program, at 69 universities.

We believe that this activity is more appropriately a State rather than a Federal function, and should, in the future, be conducted by the States.

The third area you asked us to report on was the teacher shortage study. As previously stated, the Secretary must publish prior to each competition for the teacher certification fellowships a listing of the areas of teacher shortage in vocational education and to the maximum degree possible grant the fellowships to applicants seeking to certify in an area of shortage.

All the teacher certification fellowship recipients met the requirement of seeking certification in a shortage area.

The data from that study, conducted and published prior to submission of applications for the 1978 competition, indicated a shortage of 5,692 teachers, reported by 37 States. The study was conducted by the National Center for Research in Vocational Education.

The fourth area of inquiry which you asked us to respond to was vocational education personnel development in the Pacific Basin. The University of Hawaii was competitively selected from 15 applicants to conduct a personnel development project in the Pacific Basin. A contract was funded at $238,000 as a project of national significance under subpart 2, section 171. The project began in September 1979 and will terminate December 31, 1981. Its purpose is to assist vocational educators of the Pacific Basin, territories, American Samoa, northern Marianas, Guam, and the Trust Territory of the Pacific Islands in determining and meeting their vocational education personnel needs.

Approximately 30 technical assistance trips to the territories have been made by University of Hawaii staff to gather data, conduct assessments, workshops, seminars, courses, and other training activities.

Across the 4 territories, the largest number of staff, 140, are employed in the trades and industries program. An additional 218 staff are needed to meet the program requirements in all fields plus an estimated 89 to fill vacancies.

During the first 24 months of this project, 305 staff members from the 4 territories participated in 17 training programs of 4 to 6 weeks each.

The fifth program you asked us to report on is part A, subpart 3 of section 135 of the 1976 amendments. This program is a State administered vocational education personnel development program.

Under the provisions of part A, subpart 3, the Secretary is authorized to make grants to the States to assist them in improving their vocational education programs, and to provide supportive services for these programs. These grants may be used by the States in accordance with their 5-year and annual program plans for six purposes, one of which is vocational education personnel development and training.

Data are not available on the number of personnel trained during a given fiscal year. However, the potential population for service through these State program improvement and supportive service activities includes over 354,000 vocational education teachers, together with supervisors, administrators; teacher educators, and other support personnel.

The National Center for Educational Statistics, in its 1981 report on the condition of vocational education shows total Federal outlays for preservice and inservice training, under section 135, increased 51.1 percent from 9 million in fiscal year 1978 to 13.6 million in fiscal year 1979. The amount spent by the States for all six purposes during that period increased nearly 87 percent. Vocational Education Data System data for the 1978 fiscal year show $1.03 of non-Federal funds spent by the States on preservice and inservice training for each $1 of Federal funds. This is a significant difference in matching than we have overall in vocational education, which is about $12 per $1 of Federal funds.

Section 135 authorizes comparable programs and contains essentially the same language as the preceding personnel development legislation, part F of the old EPDA Act. However, the use of funds under EPDA was a Federal responsibility. Under section 135 that responsibility has been shifted to the States.

In 1978, when the EPDA programs terminated, there was a State system for personnel development in most States and a vocational education personnel development coordinator in every State and territory. In October of 1981 there were only 19 States with full-time personnel development coordinators. In most other States that function has been assigned to the RCU director or to another State administrator.

During 1980-81, onsite quality reviews of State improvement programs and supportive services were conducted in seven States. I will not give you the details, but our written testimony contains examples from these seven States as well as a few other States which

we thought the committee might be interested in. Mr. Chairman, we thank you for the opportunity to give this very brief summary and we would like to submit our testimony for the record. In addition, we would like to submit the support documents, which we can deliver to you later in the day if you so desire.

Thank you, Mr. Chairman. We'll respond to any questions you might have.

[Prepared statement of Robert Worthington follows:]

PREPARED STATEMENT OF ROBERT M. WORTHINGTON, ASSISTANT SECRETARY FOR VOCATIONAL AND ADULT EDUCATION, U.S. DEPARTMENT OF EDUCATION

Mr. Chairman and Members of the Subcommittee:

I am Dr. Robert M. Worthington, Assistant Secretary for Vocational and Adult Education of the U.S. Department of Education. Seated next to me is Dr. Duane M. Nielsen, Chief of the Program Improvement Systems Branch within the Office of Vocational and Adult Education. The third member representing the Department is Ms. Muriel Shay Tapman who was the program officer responsible for a number of the major professional development projects in which this Subcommittee has expressed an interest.

I appreciate the opportunity to appear before you today to discuss some of the programs of Vocational Education Personnel Development authorized by the Education Amendments of 1976. Although I will limit my comments to information on the five programs or projects specifically requested by the Subcommittee, I am also submitting for the record and as a resource to the Subcommittee, a far more comprehensive document covering all of the vocational education personnel development programs authorized by the Act.

The five programs or projects you asked us to address are: (1) the Graduate Leadership Development Program, (2) the Teacher Certification Program, (3) the Teacher Shortage Study, (4) the Vocational Education Personnel Development in the Pacific Basin project, and (5) Vocational Education Personnel Training administered by the States as a part of State Program Improvement and Supportive Services.

(1) Graduate Leadership Development Program

The Graduate Leadership Development program, which provides for up to three years of advanced study and leadership development in vocational

education, is authorized by Part B, Subpart 2, Section 172, of the Vocational Education Act as amended by the Education Amendments of 1976. It is, essentially, a continuation of a comparable program authorized by the Education Professions Development Act Part F, Section 552. This Section 552 program began in 1970 with 11 institutions and 160 awardees. Four significant changes were made in the 1976 authorization, and subsequent regulations, under Section 172: (a) the length of the award was increased from one to three years, (b) State Board approval of institutional applications was no longer required, (c) individual applications were submitted directly to the U.S. Office of Education for review and approval rather than to the States for approval against a designated number of awards, and (d) the use of the institutional allowance after payment of the awardees tuition and fees was restricted to the improvement of the program at that institution. The effects of these changes were to open the application process, to place all applicants in competition at the national level, to improve program quality, and to ensure that funds awarded would be used for the program.

The three-year, Section 172, Graduate Leadership Development Program was initiated in 1978. Over 6,000 requests were received for applications and 1,122 individuals applied for the 155 awards available (Table 1, p. 13). The 195 award recipients were eligible to participate in individualized leadership development programs, at 18 institutions of higher education approved by the Secretary, for a period not to exceed 36 months. Applications were received from and awards were made to individuals from all 57 States and Territories. It should be noted that the enhanced competitive

features of the award process were a factor in making awards to diverse recipients. Seventy-eight (50.3%) of the award recipients were female and 19 (12.3%) were minorities including American Indians, Asians, Blacks, and Hispanics. Our elibigility requirements are designed to select those who have both practiced in the field of vocational education and who have demonstrated good scholarship and leadership.

To be eligible to participate in this program, individuals must. (a) have a minimum of two years of experience in vocational education or in industry, military technical training, or social science research, (b) be employed or reasonably assured of employment in vocational education, (c) have completed, as a minimum, a baccalaureate degree, (d) be recommended by their employer, or others, as having vocational education leadership potential, and (e) be eligible for admission as a graduate student to a leadership development program at an institution of higher education approved by the Secretary.

The funding for the Graduate Leadership Development program approximated $1.7 million for each of the first two years (FY 78 and FY 79) and was reduced to $1.3 million in FY 1981 because some of the awardees completed their programs prior to the end of the fiscal year. Funds were not available to reopen the program in FY 1981. Each of the 18 institutions in the program received $4,000 per year for each awardee enrolled at that institution. Any funds remaining from that amount, after payment of the awardee's tuition and fees, were used to support the leadership development program at that institution. Each awardee received $5,400 for full-time study for twelve months and an $845 allowance per year for each dependent.

The awardees were involved in such activities as graduate level course work, seminars, workshops in special populations, and internships in national, State, and local education agencies or institutions. In addition, the participants enrolled in courses in such areas as economics, sociology, psychology, political science, research, and statistics. They also participated in or conducted national, State, and local conferences or other activities contributing to their leadership development. Yearly site visits were made by project officers and a 28-item evaluation instrument was used with awardees and staff to determine the effectiveness of the leadership programs. The scores of the evaluation instruments averaged 3.58 on a 4.0 scale for the 18 institutions and their programs. Nineteen of the awardees completed a masters degree and 127 completed the doctorate while in the program. The participants in this program have assumed positions of leadership in vocational education throughout the Nation as State directors of vocational education, university and college administrators, university department chairpersons, executive directors of State advisory councils on vocational education, regional, area, and local coordinators for vocational education, curriculum developers, researchers, professionals in related agencies such as CETA, special education, adult education, and members of legislative bodies. The presence of this program on the campuses of the 18 universities has had a significant impact on the comprehensiveness and the quality of their graduate programs.

(2) Teacher Certification Program

This program is also authorized by Section 172 of the Education Amendments. It is designed to assist in the reduction of the shortage of vocational

education teachers by providing fellowships for individuals certified as teachers in other fields during the last ten years who desire to become certified as vocational teachers. These fellowships, for up to 24 months, are also available to individuals employed in industry who have skills and experience in vocational fields where there is a shortage of teachers, who wish to be certified to teach in those fields and who have been accepted by an approved teacher training institution in such a program of certification. The Secretary publishes, before the beginning of each competition, a listing of the areas of teacher shortage in vocational education, and to the maximum degree possible, grants the fellowships to applicants seeking to certify in the areas of shortage. When this program was announced in 1978, 5,817 requests for applications were received from individuals in every State and Territory (Table II, p. 14).

Four hundred and twenty-two applications were received and reviewed from 49 States, and fellowships were awarded to 188 applicants from 31 States, who had been accepted for enrollment in a teacher certification program at 69 universities. One hundred and thirty-five of the fellowship recipients were unemployed teachers previously certified in some other field and 53 were employed in business or industry at the time of application. Ninety-seven (51.6%) were female and 26 (13.8%) were minorities including American Indians, Asians, Blacks, and Hispanics. One hundred and forty-nine of the 188 completed certification requirements and 36 continued their enrollment for further study or returned to business and industry on completion of the program.

Funds allocated to the Teacher Certification Program totaled $1.8 million for the first year of the program, 1978, and $1.4 million in the final year, 1979. Each of the 69 institutions in the program received $2,500 per year for each fellow enrolled at that institution. Any of that amount remaining, after payment of tuition and fees, was used to strengthen the vocational education program at that institution. Each fellowship recipient received a stipend of $5,400 and $845 per dependent for each 12 months of full-time study. Funding was not available in FY 1980 or FY 1981 to open a new competition for this program. Site visits were made to selected institutions by project officers and annual progress and final technical reports were reviewed by the project and grants officers. One hundred and forty-nine of the 188 fellowship recipients completed certification requirements.

(3) Teacher Shortage Study

As stated previously, the Secretary must publish, prior to each competition for the teacher certification fellowships, a listing of the areas of teacher shortage in vocational education, and to the maximum degree possible, grant the fellowships to applicants seeking to certify to teach in the areas of shortage. All of the teacher certification fellowship recipients met the requirement of seeking certification in a shortage area. The data from that study, conducted and published prior to submission of applications for the 1978 competition, indicated a shortage of 5,692 teachers reported by 37 States (Table III, p. 14). This study was conducted by the National Center for Research in Vocational Education located at Ohio State University. An OMB approved survey instrument requesting an enumeration of shortages by OE Codes was sent to the State directors of vocational education. Response to the survey was voluntary.

Thirty-seven States reported shortages, nine reported no shortages, three indicated they did not have the data available, and seven States did not respond.

(4) Vocational Education Personnel Development in the Pacific Basin

The University of Hawaii was competitively selected from 15 applicants to conduct a personnel development project in the Pacific Basin. The contract was funded at $238,830 as a Project of National Significance under Subpart 2, Section 171. The project began on September 1, 1979 and will terminate December 31, 1981. Its purpose is to assist the vocational educators of the Pacific Basin Territories (American Samoa, the Commonwealth of the Northern Marianas, Guam, and the Trust Territory of the Pacific Islands) in determining and meeting their vocational education personnel needs. The project was designed to improve the Territories' vocational education programs, and services which support those programs, by improving the qualifications and performance of persons serving or preparing to serve in vocational education positions.

Although the project has not terminated, some preliminary data are available from progress reports. Approximately 30 technical assistance trips to the Territories have been made by University of Hawaii project staff to gather data, conduct assessments, workshops, seminars, courses, and other training activities. Analyses of certification requirements and programs have been made and reports on each of the four Territories are being prepared. Recruitment strategies are being developed and implemented. Summaries of programs offered and vocational staff employed,

by instructional level and Territory, indicate that 121 vocational programs are offered, staffed by 391 instructional and support staff, in the four Territories (Table IV, p. 15). Three hundred and three (77%) of the 391 staff are at the secondary level, 65 (17%) are at the post-secondary level, and 23 (6%) are at the presecondary or adult/apprenticeship levels.

Across the four Territories, the largest number of staff, 140, are employed in Trades and Industries programs (Table V, p. 15). An additional 218 staff are needed to meet program requirements, plus an estimated 89 to fill vacancies from attrition. During the first 24 months of this project, 305 staff members from the four Territories participated in 17 training programs of four to six weeks each. Thirty-four of the participants were staff members from American Samoa, 22 from Northern Marianas, 63 from Guam, and 186 were from the Trust Territory of the Pacific Islands.

(5) Vocational Education Personnel Training

The programs and projects described so far are federally administered. The Education Amendments of 1976 also included State administered vocational education personnel development. Under the provision of Part A, Subpart 3, the Secretary is authorized to make grants to the States to assist them in improving their vocational education programs and in providing supportive services for those programs. These grants may be used by the States in accordance with their five-year and annual program plans for six purposes, one of which is vocational education personnel training (Section 135). Both the contract and the grant mode may be used, but the amount to be spent for that purpose is not stipulated. The States may, and do, make that determination.

The States may use these funds to support programs or projects designed to improve the qualifications of those serving or preparing to serve in vocational education programs, including teachers, administrators, supervisors, and vocational guidance and counseling personnel. Although data are not available on the number of personnel trained during a given fiscal year, the potential population for service through these State program improvement and supportive services activities includes over 354,000 vocational education teachers together with supervisors, administrators, teacher educators, and other support personnel.

The National Center for Education Statistics, Vocational Education Data Systems (NCES/VEDS), 1981 report on The Condition of Vocational Education (p. 170), shows total Federal outlays for preservice and inservice training (Section 135) increased 51.1% from $9.0 million in FY 1978 to $13.6 million in FY 1979. The amount spent by the States for all six purposes, during that same period, increased nearly 87 percent. VEDS data for FY 1978 show $1.03 of non-Federal funds spent by the States on preservice and inservice training for each $1.00 of Federal funds.

Section 135 authorizes comparable programs and contains essentially the same language as the preceding personnel development legislation (Section 553, Part F, of the Education Professional Development Act (EPDA)). However, the use of funds under EPDA was a Federal responsibility while under Section 135 that responsibility has been shifted to the States. In 1978, when the EPDA, Section 553, programs terminated, there was a State system for personnel development in most States and a vocational education personnel development coordinator in every State and Territory.

These coordinators were responsible for encouraging, assisting, and coordinating preservice and inservice personnel development across all occupational areas at all levels. In October of 1981, there were only nineteen States with full-time personnel development coordinators. In most other States that function has been assigned to the RCU director or another State administrator. A 1981 survey of the 57 RCU directors, completed by the National Research Coordinating Unit Association, indicated that responsibility for personnel development was a part of the RCU in 31, or 54 percent, of the 57 States and Territories.

During 1980 and 1981, on-site quality reviews of State program improvement and supportive services were conducted in seven States: Arizona, Colorado, Mississippi, Nebraska, Texas, Virginia, and Washington. These quality reviews included the State's personnel development activities under Section 135. Arizona contracts out their personnel development coordination to a major vocational teacher training institution which maintains close coordination with the RCU. Mississippi and Texas conduct personnel development activities under the auspices of the RCU. Virginia has a strong, statewide personnel development system, as does Nebraska, both of which are coordinated with the RCUs. The Colorado RCU funds the personnel development activities in that State. Washington's funds for personnel development are split by full-time equivalent enrollment between secondary school and community college staff.

North Carolina has developed both inservice and preservice programs in their Personnel Development Training Process (PDTP). The PDTP includes four major components: (1) needs assessments concerned with individual, program area, and local agency needs, (3) a planning phase which sets

priorities, determines type of activities, plans for activities, and coordinates training activities, (3) an implementation phase which coordinates and executes the activities, and (4) an evaluation phase which includes exit evaluation of outcomes as well as participant evaluation of activity. The PDTP has been field tested and evaluation of the process is nearing completion. The inservice program provides training for State staff, local administrators, teacher educators, and vocational instructors. The preservice program is developing an effective delivery system for vocational teacher education. The State Personnel Development Unit participates in the development of the North Carolina Quality Assurance Program for all public school educators. In addition, the framework for a master plan for vocational education personnel development was completed during Fiscal Year 1981.

In 1980-1981, Pennsylvania conducted 44 technological updating workshops in 33 different instructional programs. The workshops were available to both vocational and CETA instructors. Although coordinated by vocational teacher educators at institutions of higher education, the technical content was presented by business and industry experts. The preservice and inservice needs of vocational instructors working with handicapped students were addressed in three additional projects. Pennsylvania has continued its commitment to competency-based vocational teacher education including occupational competency assessment. A competency-based leader development project was funded which focused on eliminating sex bias and solving management problems. Personnel Development Centers were funded at four Pennsylvania universities with partial support from Section 135 funds.

Only limited, and largely anecdotal, data are available on the effectiveness of State expenditures of Federal funds for program improvement and supportive services through personnel development. The number of full-time personnel development coordinators at State level has steadily declined and responsibility for this function has been shifted to other administrators. Teacher shortages and resources for adequate preservice and inservice preparation of vocational personnel continue to be serious problems. Many four-year teacher education institutions have reduced their commitment to preservice training. Local schools are closing programs when qualified instructors are not available.

The on-site management evaluation reviews for program quality, including analyses of State program improvement and supportive services, which were conducted in seven States by the Office of Vocational and Adult Education, indicated that essential and effective personnel training is taking place in those States. There appears to be a greater deficit, quantitatively and qualitatively, in technical areas of occupational skill development than in professional areas of methodology. Such expressions as "shortages" and "lack of resources" appear frequently in reports and program descriptions. The Condition of Vocational Education states that since 1972, the total number of instructional staff has grown by over 50 percent, but a profile of staff characteristics suggests that there has been only limited success in providing staff which mirror the heterogeneous nature of the students they instruct.

Mr. Chairman, we would like to thank you for this opportunity to meet with you and this Subcommittee to report on the status of some of the Vocational Education Personnel Development activities authorized by the Education Amendments of 1976. We will be pleased to answer any questions that you or other subcommittee members may have.

TABLE I. PARTICIPATION IN GRADUATE LEADERSHIP DEVELOPMENT PROGRAM: 1978-1981

Applications requested	6,243	
States/Territories represented		57
Applications received	1,122	
States/Territories represented		57
Awards granted	155	
States/Territories represented		57
Number/percent male	77/49.7	
Number/percent female	78/50.3	
Number/percent minority	19/12.3	
Alternates placed in program	47	
Total individuals participating	202	
Completed masters degree	19	
Completed doctorate	127	
Universities/consortia participating		18

SOURCE: Program files, U. S. Department of Education, Office of Vocational and Adult Education.

TABLE II. PARTICIPATION IN TEACHER CERTIFICATION PROGRAM: 1978-1980

Applications requested	5,817	
States/Territories represented		57
Applications received	422	
States/Territories represented		49
Fellowships granted	188	
States/Territories represented		31
Previously certified in other field	135	
From business or industry	53	
Number/percent male	91/48.4	
Number/percent female	97/51.6	
Number/percent minority	26/13.8	
Completed certification requirements	149	
Completed program but continued education or returned to business or industry	36	
Universities participating		69

SOURCE: Program files, U. S. Department of Education, Office of Vocational and Adult Education.

TABLE III. TEACHER SHORTAGES REPORTED IN VOCATIONAL EDUCATION: 1977-1978[1/]

Vocational Field	Teacher Shortage	Percent of Total
Agriculture	419	7.4
Distributive Education	277	4.9
Health Occupations Education	835	14.7
Home Economics	757	13.3
Office Occupations	689	12.1
Technical Education	193	3.4
Trades and Industry	2,083	36.5
Industrial Arts	439	7.7
Total	5,692	100.0

1/ 1977-1978 school year, 37 States reporting.
SOURCE: Federal Register, Vol. 43, No. 82, pp. 18117-18127, April 23, 1978.

TABLE IV. VOCATIONAL PROGRAMS AND STAFF, BY LEVEL AND TERRITORY: 1980

Territory	Programs Offered	Vocational Staff: Total #	Total %	Secondary #	Secondary %	Post-Sec. #	Post-Sec. %	Pre-Sec/Adult #	Pre-Sec/Adult %
American Samoa	20	51	13	27	9	17	26	7	30
Northern Marianas	17	41	10	34	11	-	-	7	30
Guam	41	65	17	34	11	22	34	9	40
Trust Territory	43	234	60	208	69	26	40	-	-
Total	121	391	100	303	100	65	100	23	100
% of Total			100		77		17		6

SOURCE: Project progress reports.

TABLE V. STAFF EMPLOYED AND ADDITIONAL STAFF NEEDED, BY PROGRAM, PACIFIC BASIN TERRITORIES: 1980

Program	Staff Employed #	Staff Employed %	Additional Staff Needed
Agriculture/Agribusiness	65	17	53
Distributive Education	4	1	4
Health Occupations	6	1	8
Home Economics	54	14	27
Office Occupations	55	14	22
Technical Education	25	6	16
Trades and Industry	140	36	48
Industrial Arts	15	4	29
Related Areas	27	7	11
Total	391	100	218

SOURCE: Project progress reports.

ADDENDUM TO THE PREPARED STATEMENT OF ROBERT M. WORTHINGTON, ASSISTANT SECRETARY FOR VOCATIONAL AND ADULT EDUCATION, U.S. DEPARTMENT OF EDUCATION

This paper provides a comprehensive overview of the purposes and programs of Vocational Education Personnel Development as authorized by the Education Amendments of 1976, Part A, Subpart 3, Section 135, Vocational Education Personnel Training; and Part B, Subpart 2, Sections 171, Program Improvement, and 172, Training and Development Programs for Vocational Education Personnel.

These authorizations actually include five programs: (A) Vocational Education Personnel Training administered by the States as a part of State Program Improvement and Supportive Services (Section 135); and Federal administered Program Improvement activities consisting of (B) Projects of National Significance and (C) National Center for Research in Vocational Education (Section 171), and Training and Development Programs for Vocational Education Personnel including (D) Graduate Leadership Development Program and (E) the Vocational Education Teacher Certification Program.

The paper will address the Purpose, Populations Served, History, Programs Offered and Program Effectiveness for each of these five programs.

PURPOSES OF VOCATIONAL EDUCATION PERSONNEL DEVELOPMENT PROGRAMS

(A) Vocational Education Personnel Training (Subpart 3, Section 135)

Under the provisions of Part A, Subpart 3, the Secretary is authorized to make grants to the States to assist them in improving their vocational education programs and in providing supportive services for those programs. These grants may be used by the States in accordance with their five-year and annual program plans for six purposes. (1) research, (2) exemplary and innovative programs, (3) curriculum development, (4) guidance and counseling, (5) vocational education personnel training Section 135) and (6) grants to overcome sex bias.

Twenty percent of the funds appropriated for Subpart 2 (Basic Grants) of the Vocational Education Act (VEA) is available for these six purposes. Of this twenty percent, twenty percent must be used to support purpose #4, guidance and counseling. The remaining eighty percent may be used for the other five purposes including vocational education personnel training (Section 135). Both the contract and the grant mode may be used for funding personnel training authorized by Section 135 but the amount to be spent for that purpose is not stipulated. The States may, and do, make that determination.

The States may use these funds to support programs or projects designed to improve the qualifications of those serving or preparing to serve in vocational education programs, including teachers, administrators, supervisors and vocational guidance and counseling personnel. The programs or projects may (1) train or retrain teachers, supervisors and teacher educators, (2) provide inservice training for vocational education personnel, (3) provide for the exchange of vocational education personnel with skilled workers or supervisors in business, industry, and agriculture, (4) prepare journeymen in the skilled trades or occupations for teaching positions, (5) train or provide inservice training for those working with vocational education programs for persons with limited English-speaking ability and, (6) provide short-term or regular-session institutes for personnel entering or reentering the field of vocational education in new or emerging occupational areas.

(B) Program Improvement (Subpart 2 Section 171)

Funds reserved to the Secretary for Subpart 2 (Programs of National Significance) may be used for (1) Program Improvement activities authorized by Section 171 and (2) Training and Development Programs for Vocational Education Personnel authorized by Section 172. The first, Program Improvement (Section 171) authorizes the Secretary to award contracts in two areas relevant to vocational education personnel development: (1) activities authorized by Section 135, which were just discussed, if those activities are deemed by the Secretary to be of national significance, and (2) the support of a national center for research in vocational education which will, among its six areas of authorized activity, conduct applied research and development on vocational education problems of national significance and provide leadership development through an advanced study center and inservice education activities for State and local leaders in vocational education.

(C) Training and Development Programs for Vocational Education Personnel (Subpart 2, Section 172)

The second of the two programs for which funds reserved to the Secretary for Subpart 2 may be used is to support Training and Development Programs for Vocational Education Personnel on a national basis (Section 172). Two types of training and development programs are authorized: (1) a Graduate Level Leadership Development Program of up to three years of advanced study in vocational education for experienced vocational educators and, (2) Vocational Education Teacher Certification Program of up to two years for unemployed teachers previously certified in another field or skilled employees in business, industry or agriculture who wish to certify to teach vocational education in a vocational field where there is a teacher shortage.

POPULATIONS SERVED

(A) Vocational Education Personnel Training (Subpart 3, Section 135)

The States are authorized to use funds under this Section to improve the qualifications and performance of personnel serving or preparing to serve in vocational education programs. Although data are not available on the number of personnel trained in the '57 States and Territories during a given fiscal year, the

description of funding levels and programs offered which will be given later will provide an indication of the types and scope of personnel training offered. The potential population for service through these State program improvement and supportive services activities includes over 354,000 teachers (TABLE 1) and their replacements, serving over 17,000,000 students (TABLE 2) in more than 19,000 institutions (TABLE 3) offering vocational education programs, plus their supervisors, administrators, teacher educators and other support personnel. The total number of vocational teachers increased nearly 120,000 in the six year period from 1972 to 1978, with the number of teachers of adult vocational education virtually doubling in that same span of time (TABLE 1).

TABLE 1. TEACHERS OF VOCATIONAL EDUCATION (VEA), BY LEVEL: FISCAL YEARS 1972-1978.

Level	1972	1973	1974	1975	1976	1977	1978
				Headcount			
Total (unduplicated)	235,658	243,514	266,220	294,053	309,931	335,301	354,175
Secondary[1/]							
Total	131,404	133,620	150,860	164,664	164,050	173,218	183,507
Percent	51.5	50.3	51.1	51.0	50.0	48.8	47.2
Postsecondary[1/]							
Total	56,311	58,298	66,776	72,377	76,919	85,564	80,443
Percent	22.1	21.9	22.6	22.4	23.4	24.1	20.7
Adult							
Total	67,242	73,900	77,579	86,132	87,436	95,974	124,586
Percent	26.4	27.8	26.3	26.6	26.6	27.1	32.1
				Full-time equivalent			
Total	175,882	181,694	203,789	222,158	225,469	243,637	264,729
Secondary							
Total	110,796	112,664	127,201	138,840	138,322	146,052	154,728
Percent	63.0	62.0	62.4	62.5	61.3	59.9	58.4
Postsecondary							
Total	39,241	40,626	46,534	50,437	53,602	59,626	56,058
Percent	22.3	22.4	22.8	22.7	23.8	24.5	21.2
Adult[2/]							
Total	25,845	28,404	30,054	32,881	33,545	37,959	53,943
Percent	14.7	15.6	14.8	14.8	14.9	15.6	20.4

1/ Headcounts for secondary and postsecondary levels after 1972 are NCES estimates derived by holding the ratio of headcount to F.T.E. constant. If, in fact, the mix between full-time and part-time staff is changing at either level, these figures will be correspondingly in error.

2/ Adult F.T.E. figures are NCES estimates derived by attributing one-third F.T.E. to a part-time instructor.

NOTE: Headcount totals contain some duplication among levels.

SOURCE: U.S. Department of Health, Education, and Welfare, U.S. Office of Education, Division of Vocational and Technical Education, Annual Reports, 1972-1978.

Enrollment in vocational education programs have increased 5.5 million between the 1972 total of 11,602,144 and 17,033,620 in 1979 (TABLE 2).

TABLE 2. ENROLLMENT IN VOCATIONAL EDUCATION, BY LEVEL: FY 1972, 1976, 1979

Fiscal Year	Total	Secondary	Postsecondary Degree Credit)	Adult (Non-Degree Credit)
1972	11,602,144	7,231,648	1,304,092	3,066,404
1976	15,133,322	8,860,947	2,202,800	4,069,575
1979	17,033,620	10,309,431	1,949,558[1/]	4,744,631

1/ Reduction due to Education Amendments of 1976 change in definition of postsecondary which shifted some students to the adult level.

SOURCE: 1980 Secretary of Education Report to Congress.

In 1978 there were over 19,000 institutions offering vocational education programs (TABLE 3). The single largest provider of vocational education has historically been the traditional educational system providing instruction at the secondary level. Other educational institutions offering general or academic instruction are also major providers. Postsecondary institutions are important due to the level and specialization of personnel development services needed.

TABLE 3. INSTITUTIONS OFFERING VOCATIONAL EDUCATION: 1978

Type	Number of Schools
Comprehensive High School	4,878
Vocational High School	225
Area Vocational Centers/Schools	1,899
General High School	10,851
Community College	720
Technical Institute	162
Specialized Noncollegiate Postsecondary School	308
Total	19,043

(B) Program Improvement (Subpart 2, Section 171)

The Secretary is authorized to use funds reserved for Subpart 2 (Programs of National Significance) to award contracts in two areas which impact on vocational education personnel development: (1) projects determined by the Secretary to be of national significance for the purposes authorized by Section 135, and (2) the support of a national center for research in vocational education. Both of these programs are designed to serve the professional vocational education community at State and local levels including administrators, supervisors, teacher educators, guidance personnel, teachers and students. In addition, the findings and products serve the total range of institutions, professional workers, and others who are engaged in occupational education and training, employability and career development.

The Projects of National Significance are targeted primarily on the development of products that can be used at State, institutional and local levels. The practitioners of vocational education and their students are the ultimate populations served. Six Curriculum Coordination Centers are supported to provide technical assistance to States in curriculum development, to conduct training on the use and adaptation of instructional materials, and to provide guidelines and bibliographies for the production of national priorities. These six centers are coordinated nationally, regional in organization and serve State, institutional and local vocational education staff members in all 57 States and territories. During FY 1980, these six centers conducted 349 inservice workshops for over 14,000 participants.

The National Center for Research in Vocational Education authorized by Section 171, was funded in FY 1978 at The Ohio State University on an annually renewable five-year contract. Many of its applied research and development products are directly related to personnel development and are distributed to State, institutional and local personnel. The Center's National Academy for Vocational Education offers an in-residence program and an institute program of workshops, conferences, and symposia for State and local vocational education leadership personnel. The in-residence program has hosted approximately 30 individuals per year. The Academy, through the institute program, has offered approximately 70 workshops and conferences per year providing training for approximately 2,000 individuals each year on a cost-recovery basis. The National Center's Advanced Study Center

conducts a long-term (nine to twelve month) fellowship program designed for scholarly pursuits by leaders and potential leaders from vocational education and related fields. Since 1978, 23 educational leaders from 18 States, 14 disciplines and a variety of institutional settings have participated in this program.

(C) Training and Development Programs for Vocational Education Personnel (Subpart 2, Section 172)

Two types of training and development programs are authorized by Section 172, a Graduate Level Leadership Development Program of up to three years of advanced study in vocational education for experienced vocational educators and a Vocational Education Teacher Certification Program for up to two years in length for unemployed teachers previously certified in another field or skilled employees in business, industry or agriculture who wish to certify to teach vocational education in a field of teacher shortage. Individuals eligible to participate in the Graduate Level Leadership Development Program must have a minimum of two years of experience in vocational education or in industry, military technical training or social science research; must be employed or reasonably assured of employment in vocational education; must have completed, as a minimum, a baccalaureate degree; must be recommended by their employer, or others, as having vocational education leadership potential; and must be eligible for admission as a graduate student to a leadership development program at an institution of higher education approved by the Secretary. In 1978, the year this three-year program was initiated, over 6,000 requests were received for applications and 1,122 individuals applied for the 155 awards available (TABLE 4).

TABLE 4. PARTICIPATION IN GRADUATE LEADERSHIP DEVELOPMENT PROGRAM: 1978-1981

Applications requested	6,243	
States/Territories represented		57
Applications received	1,122	
States/Territories represented		57
Awards granted	155	
States/Territories represented		57
Number/percent male	77/49.7	

Number/percent female	78/50.3
Number/percent minority	19/12.3
Alternates placed in program	47
Total individuals participating	202
Completed masters degree	19
Completed doctorate	127
Universities/consortia participating	18

SOURCE: Program files, U. S. Department of Education, Office of Vocational and Adult Education.

The 155 award recipients were eligible to participate in individualized leadership development programs, at 18 institutions of higher education approved by the Secretary, for a period not to exceed 36 months. Applications were received from and awards were made to individuals from all 57 States and Territories. Seventy-eight (50.3 percent) of the award recipients were female and 19 (12.3 percent) were minorities including American Indians, Asians, Blacks and Hispanics. As awardees completed their individual programs during the three year period, an additional 47 alternates were placed in the program.

Section 172 also authorizes a Vocational Education Teacher Certification Program designed to assist in the reduction of the shortage of vocational education teachers. This program provides fellowships for individuals certified as teachers in other fields during the last 10 years who (1) desire to become certified as vocational teachers, (2) have skills and experience required for certification as vocational teachers and (3) are unable to find employment in their field of previous certification. Individuals employed in industry are also eligible for fellowships if they meet the following three conditions: (1) have skills and experience in vocational fields where there is a shortage of teachers, (2) wish to certify to teach in those fields and (3) have been accepted by an approved teacher training institution in such a program of certification. The Secretary must publish, before the beginning of each competition, a listing of the areas of teacher shortage in vocational education and will, to the maximum degree possible, grant the fellowships to applicants seeking to certify in the areas of shortage.

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When this program was announced in 1978, 5,817 requests for applications were received from individuals in every State and Territory (TABLE 5).

TABLE 5. PARTICIPATION IN TEACHER CERTIFICATION PROGRAM: 1978-1980

Applications requested	5,817	
Applications received	422	
States/Territories represented		49
Fellowships granted	188	
States/Territories represented		31
Previously certified in other field	135	
From business or industry	35	
Number/percent male	91/48.4	
Number/percent female	97/51.6	
Number/percent minority	26/13.8	
Completed certification requirements	149	
Completed program but continued education or returned to business or industry	36	
Universities participating		69

SOURCE: Program files, U. S. Department of Education, Office of Vocational and Adult Education.

Four hundred and twenty-two applications were received and reviewed from 49 States and fellowships were awarded to 188 applicants, from 31 States, who had been accepted for enrollment in a teacher certification program at one of 69 universities. One hundred thirty-five of the fellowship recipients were unemployed teachers previously certified in some other field and 53 were employed in business or industry at the time of application. Ninety-seven (51.6 percent) were female and 26 (13.8 percent) were minorities including American Indians, Asians, Blacks and Hispanics. One hundred forty-nine of the 188 completed certification requirements and 36 continued their enrollment for further study or returned to business and industry on completion of the program.

As stated previously, the Secretary must publish, prior to each competition for the teacher certification fellowships, a listing of the areas of teacher shortage in vocational education, and to the maximum degree possible, grant the fellowships to applicants seeking to certify to teach in the areas of shortage. All of the teacher certification fellowship recipients met that requirement. The data from that study, conducted and published prior to submission of applications for the 1978 competition, indicated a shortage of 5,692 teachers reported by 37 States (TABLE 6).

TABLE 6. TEACHER SHORTAGES REPORTED IN VOCATIONAL EDUCATION: 1977-1978 1/

Vocational Field	Teacher Shortage	Percent of Total
Agriculture	419	7.4
Distributive Education	277	4.9
Health Occupations Education	835	14.7
Home Economics	757	13.3
Office Occupations	689	12.1
Technical Education	193	3.4
Trades and Industry	2,083	36.5
Industrial Arts	439	7.7
Total	5,692	100.0

1/ 1977-1978 school year, 37 States reporting.

SOURCE: Federal Register, Vol. 43, No. 82, pp. 18117-18127, April 23, 1978.

This study was conducted by the National Center for Research in Vocational Education. An OMB approved survey instrument requesting an enumeration of shortages by OE Codes was sent to the State Directors of Vocational Education. Response to the survey was voluntary. Thirty-seven States reported shortages, nine reported no shortages, three indicated they did not have the data available and seven States did not respond.

FUNDING HISTORY

(A) Vocational Education Personnel Training (Subpart 3, Section 135)

Twenty percent of the basic grant funds received by each State each year must be used for the six authorized program improvement and supportive services purposes. One of those six purposes is vocational education personnel training (Section 135). The amount to be spent on that purpose is not stipulated and is determined by each State. Total Federal expenditures for vocational education increased from $499.1 million in FY 1978 to $658.1 million in 1979, a 31.9 percent increase (TABLE 7). Federal expenditures for all six of the program improvement and supportive services purposes (Section 130 authorization) increased from $64.7 million to $120.8 million during that period, an increase of 86.6 percent. The National Center for Education Statistics, Vocational Education Data Systems 1981 report on The Condition of Vocational Education, p. 170, shows total Federal outlays for preservice and inservice training (Section 135) of $9.0 million in FY 1978 and $13.6 million in FY 1979, an increase of 51.1 percent while the amount spent by the States for all six purposed increased nearly 87 percent.

(B) Program Improvement (Subpart 2, Section 171)

During FY 1978 and FY 1979 the Programs of National Significance, as required by law, received five percent of the basic grant funds appropriated to the States (TABLE 9). In FY 1980 and FY 1981, the appropriations

TABLE 8. APPROPRIATIONS FOR VOCATIONAL EDUCATION PROGRAMS OF NATIONAL SIGNIFICANCE: FISCAL YEARS 1978 - 1981

Program	FY 1978	FY 1979	FY 1980	FY 1981
National Occupational Information Coordinating Committee	5,000,000	5,000,000	3,012,000	3,000,000
National Center for Research in Voc. Ed.	4,500,000	5,064,497	5,606,066	5,500,000
Curriculum Coordination Centers	395,000	632,822	364,096	599,000
Projects of National Significance	13,960,662	14,739,252	373,085	1,258,540
Graduate Leadership Development Program	1,760,000	1,764,000	1,002,293	-----
Vocational Teacher Certification Program	1,850,000	1,491,310	-----	-----
Total	27,465,662	28,619,881	10,357,540	10,357,540

SOURCE: Program files, U. S. Department of Education, Office of Vocational and Adult Education.

for the Programs of National Significance were reduced to $10.4 million. Allocations for Projects of National Significance were approximately $14 million in FY 1978 and FY 1979, $.4 million in FY 1980 and $1.3 million in FY 1981. Funding for the Curriculum Coordination Centers ranged from $.4 million to $.6 million over the four years and funding for the National Center for Research in Vocational Education ranged from $4.5 million to $5.6 million. As discussed earlier, these are multi-purpose projects and centers and only a portion of their activities and expenditures are applicable to personnel development. The legislation also requires the Secretary to transfer not less than $3 million and not more than $5 million to the

National Occupational Information Coordinating Committee each fiscal year, unless there is point of order language in the appropriation bill.

(C) Training and Development Programs for Vocational Education Personnel (Subpart 2, Section 172)

Funding for the Graduate Leadership Development Program was approximately $1.7 million for each of the first two years and was reduced to $1 million in the third year because some of the awardees completed their programs prior to the end of the fiscal year (TABLE 8). Funds were not available to reopen the program in FY 1981. Each of the 18 institutions in the program (TABLE 4), received $4,000 per year for each awardee enrolled at that institution. Any funds remaining from that amount, after payment of the awardee's tuition and fees, were used to support the leadership development program at that institution. Each awardee received $5,400 for full-time study for twelve months and an $845 allowance for each dependent.

Funds allocated to the Vocational Education Teacher Certification Program declined from $1.8 million for the first year of the program, 1978, to $1.4 million in the final year, 1979, as fellowship recipients completed certification requirements and left the program (TABLE 8). Each of the 69 institutions in the program (TABLE 5), received $2,500 per year for each fellow enrolled at that institution. Any of that amount remaining, after payment of tuition and fees, was used to strengthen the vocational education program at that institution. Each fellowship recipient received a stipend of $5,400 and $845 per dependent for each 12 months of full-time study. Funding was not available in FY 1980 or FY 1981 to open a new competition for this program.

PROGRAMS OFFERED

(A) Vocational Education Personnel Training (Subpart 3, Section 135)

Section 135 authorizes comparable programs, and contains essentially the same language, as earlier personnel development legislation, Section 553, Part F, of the Education Professions Development Act (EPDA), enacted in 1967. However, the use of funds under EPDA was a Federal responsibility while under Section 135 that responsibility has been shifted to the States. A review of five-year State plans revealed that the States retained much of the language and format developed at the Federal level for Section 553, Part F, in describing their plans for personnel development under Section 135. In 1978, when the EPDA, Section 553 programs terminated, there was a State system for personnel development in most States and a vocational education personnel development coordinator in every State and Territory. These coordinators were responsible for encouraging, assisting and coordinating preservice and inservice personnel development across all occupational areas at all levels. In October of 1981, there were only nineteen States with full-time personnel development coordinators. In most other States that function has been assigned to the RCU director or another State administrator. A 1981 survey of the 57 RCU directors, completed by the National Research Coordinating Unit Association, indicated that responsibility for personnel development was a part of the RCU in 31, or 54 percent, of the 57 States and Territories.

During 1980 and 1981, on-site quality reviews of State program improvement and supportive services were conducted in seven States: Arizona, Colorado, Mississippi, Nebraska, Texas, Virginia and Washington. These quality reviews included the State's personnel development activities under Section 135. Arizona contracts out their personnel development coordination to a major vocational teacher training institution which maintains close coordination with the RCU. Mississippi and Texas conduct personnel development activities under the auspices of the RCU. Virginia has a statewide personnel development system, as does Nebraska, both of which are coordinated with the RCUs. The Colorado RCU funds the personnel development activities in that State. Washington's funds for personnel development are split by full-time equivalent enrollment between secondary school and community college staff.

A staff review of FY 1981 programs in four additional States indicated that Iowa al-

located its funds for program improvement and supportive services through unified memoranda of agreement with Iowa State University, the University of Iowa, and the University of Northern Iowa. The purposes of these agreements were to assure liaison between the State agency and the institutions, and to strengthen preservice and inservice teacher education programs in the three to six vocational teacher or counselor training areas maintained by each institution. An instructional series was developed to give "survival skills" to new vocational teachers coming directly from industry to the classroom.

Utah sponsored workshops in occupational home economics, agriculture, homemaking, industrial arts, distributive education, and trades and industry. These workshops ranged from one to five days. North Carolina has developed both inservice and preservice programs in their Personnel Development Training Process (PDTP). The PDTP includes four major components: (1) needs assessment concerned with individual program area, and local agency needs, (2) a planning phase which sets priorities, determines type of activities, plans for activities, and coordinates training activities, (3) an implementation phase which coordinates and executes the activities, and (4) an evaluation phase which includes exit evaluation of outcomes as well as participant evaluation of activity. The PDTP has been field tested and evaluation of the process is nearing completion. The inservice program provides training for State staff, local administrators, teacher educators and vocational instructors. The preservice component is developing an effective delivery system for vocational teacher education. The State Personnel Development Unit participates in the development of the North Carolina Quality Assurance Program for all public school educators. In addition, the framework for a master plan for vocational education personnel development was completed during fiscal year 1981.

In 1980-1981, Pennsylvania conducted 44 technological updating workshops in 33 different instructional programs. The workshops were available to both vocational and CETA instructors. Although coordinated by vocational teacher educators at institutions of higher education, the technical content was presented by business and industry experts. The preservice and inservice needs of vocational instructors working with handicapped students were addressed in three additional projects. Concern for the disadvantaged was the concentration of four preservice and two inservice projects. In addition, Pennsylvania continued its commitment to competency based vocational teacher education, including occupational competency assessment. A competency based leader development project was funded which also focused on eliminating sex

bias and solving management problems. Personnel Development Centers were funded at four Pennsylvania universities with partial support from Section 135 funds (Table 9).

(B) Program Improvement (Subpart 2, Section 171)

As indicated previously in the discussions of purposes and populations served, there are two authorizations under Section 171 (Programs of National Significance) both of which contribute to vocational education personnel development: (1) projects deemed by the Secretary to be of national significance, and (2) a national center for research in vocational education.

Contracts for Projects of National Significance are awarded competitively and range from one to three years in duration. They address relevant aspects of energy and productivity problems, new technology, collaborative relationships with industry, business and labor, program standards, accessiblity and equity. Twenty-six of the projects funded under this Section, averaging 23 months in duration, have direct relevancy to personnel development. For example, "Vocational Education Personnel Development in the Pacific Basin" is a 27-month project which will be completed in December 1981. It has conducted needs assessments, developed plans and procedures, and implemented training programs for vocational personnel in the Pacific Territories. Another project, "Vocational Education Curriculum Specialist Materials", produces instructional modules for the preservice and inservice training of vocational education curriculum specialists. These validated modules are being used in over 50 institutional and State sites.

Two other contracts completed in FY 1981 developed and validated standards for home economics and industrial arts programs and trained personnel nationally in their use. Thirteen other projects completed during 1980-81 were reviewed to determine how their products were disseminated and personnel trained to their use (Table 10).

The six regional Curriculum Coordination Centers are also funded by contracts under the provisions of Section 171. They provide a system for sharing interstate development and dissemination of curriculum and instructional materials. The Centers focus on national priority areas as an integral part of their services, and respond to the need of their respective consortia of States. Information sharing through dissemination and diffusion, technical assistance, and inservice training are

TABLE 9. FUNDING FOR PENNSYLVANIA VOCATIONAL EDUCATION PERSONNEL DEVELOPMENT CENTERS BY PURPOSE AND CENTER: 1980

Funding Purpose	Temple University #86-1028	Indiana University of PA #86-1031	University of Pittsburgh #86-1029	Pennsylvania State University #94-1028
Center Management	$ 48,983	$ 52,473	$ 49,169	$ 49,391
Professional Ed. for Intern Teachers		10,718	10,171	10,200
Field Assistance to Beginning Teachers	31,897	34,189	32,019	32,165
Assessment of Client Needs				
Simple Needs Survey	2,060	2,200	2,063	2,077
Extensive Needs Survey			7,376	7,410
Personnel Development Advisor, Committees	8,425	8,851	8,447	8,475
A System for Student Recruitment, Advisement and Placement				
Student Recruitment	18,856		18,917	18,989
Student Advisement				
Student Placement	10,917	11,711	10,959	11,010
Outreach Courses	85,920	7,890	64,890	220,699
Managerial Skills Workshops	4,816	5,063	14,487	14,535
Vocational Skills Workshops				
Competency-Based Teacher Ed System	253,557	189,133		221,525
Competency-Based Approach to Preparing Supervisors of Vocational Student Organizations	16,380		29,554	19,652
Refocused Internship Component of a Leadership Development Program	64,848		26,332	40,128
Location Differential Supplement	69,450	12,720	31,400	17,325
Voc. Competency Assess. Supplement	20,958	9,764	22,166	22,971
VTP Equipment & Supplies	25,954	18,754		
Total Center Funding	$663,021	$363,436	$327,961	$ [illegible]
Funding for Non-Center Activities		34,754	21,031	
Total Basic Funding	$663,021	$398,190	[illegible]	[illegible]

SOURCE: 1980-81 Pennsylvania Department of Education Personnel Development Projects.

TABLE 10. PRODUCT DISTRIBUTION AND PERSONNEL TRAINING, SELECTED PROJECTS OF NATIONAL SIGNIFICANCE: 1980 - 1981

Project Title	Contractor	Product(s) Distribution and Personnel Training
Vocational Needs of Adult Women Offenders	One America, Inc. Washington, D.C	4 workshops for State Voc. Ed. and correctional staffs: 57 Voc. Ed. State directors; NCRVE-ERIC.
Study of Vocational Education Research and Development Systems and Utilization of Products	The Network Andover, MA	57 Voc. Ed. State directors; NCRVE-ERIC; 6 CCCs.
Effective Mechanisms for Facilitating Coordination of Vocational Education Programs with YEDA Projects	Conserva, Inc. Raleigh, NC	2 workshops for State Voc. Ed. and employment and training councils' representatives and LEA and prime sponsor staffs; 57 Voc. Ed. State directors; NCRVE-ERIC; 6 CCCs; 57 RCU directors.
State Planning for Delivery of Vocational Education to Special Populations	Conserva, Inc. Raleigh, NC	57 Voc. Ed. State directors; NCRVE-ERIC; 6 CCCs; 57 RCU directors; 57 SLRs; 57 State Special Needs Supervisors 130 Voc. Ed. teacher training institutes.
Development and Criteria and Procedures to Measure the Extent of Implementation and the Effectiveness of Demonstration Projects in Vocational Education	Development Associates Arlington, VA	57 Voc. Ed. State directors; NCRVE-ERIC; 57 RCU directors.
Assessment of Quality Vocational Education in State Prisons	System Sciences, Inc. Chapel Hill, NC	5 workshops for 170 State Voc Ed. or correction staff; NCRVE-ERIC.
Modified Vocational Curriculum for the Handicapped	University of Wisconsin System Madison, WI	57 Voc. Ed. State directors NCRVE-ERIC; 6 CCCs; 57 RCU directors; 57 SLRs; 57 State Special Needs Supervisors 130 Voc. Ed. teacher training institutions.
Media Presentation on Mainstreaming the Handicapped (16mm film)	WGBH Educational Foundation Boston, MA	6 CCCs; National Audiovisual Center.
Development of Model Methods of Administration (MOA) for Office for Civil Rights Guidelines for Vocational Education	CTC Education and Human Development, Inc. Belmont, MA	5 workshops for 150 State Voc. Ed. staff; NCRVE-ERIC; 6 CCCs.
Revision and Updating of Listing of Vocational Instructional Materials Available from Federal Agencies	Human Resources Management, Inc. Washington, D.C.	NCRVE-ERIC. 6 CCCs; 57 State Voc. Ed. supervisors from each of 7 Voc. Ed. fields plus special needs Voc. Ed. supervisors
Accessibility to Vocational Education Facilities and Programs for Handicapped Persons (5 volume set)	System Sciences, Inc. Bethesda, MD	57 Voc. Ed. State directors. NCRVE-ERIC; 6 CCCs.
Armed Services Materials Conversion (Dental Assistant and Medical Assistant) - (53 Modules)	Development Associates, Inc Austin, TX	57 Voc. Ed State directors. NCRVE-ERIC; National Technical Information Service.
Development of a Catalog of Modifications and Adaptations of Vocational Education Equipment for Serving the Handicapped	University of Wisconsin Madison, WI	57 Chief State School Officers. 57 State Directors of Voc. Ed.; 57 State Directors of Special Ed RCUs; NCRVE; AVA; Teacher training institutions; State Supervisor of Special Needs; Council for Exceptional Children; 6 regional workshops

emphasized. Inservice training is a significant feature of this network. Training sessions are conducted for a cross section of clients involved in vocational education including teachers, counselors, supervisors, CETA staff, business, industry, labor, and others from both public and private schools. Workshops covered topics such as energy education, sex equity, productivity, special needs curriculum, and others. A total of 349 workshops involving 14,499 participants were conducted throughout the network during FY 1980.

The second authorization under Section 171 is support for a National Center for Research in Vocational Education. This Center conducts vocational education research, development and training which addresses vocational education problems of national significance. It distributes its own, as well as State produced, program improvement products, and information to the States, colleges and universities, technical institutes, and professional and related organizations. It acts as a clearing house for State initiated program improvement materials and products. The Center serves the staff development needs of vocational education through those functions and in a variety of more specific ways. Through its National Academy for Vocational Educators, 3,826 teachers and administrators participated in 1980 in 83 programs conducted in 32 States. In that same year, 24 individuals from nine States participated in the National Academy In-Residence Program, which fosters individual study and leadership development. The National Center's Advanced Study Center is also serving staff development needs through its Fellows Program. Since 1978, 23 educational leaders from 18 States, 14 disciplines and a variety of institutional settings have taken part in this program.

The National Center has completed a number of studies which impact on personnel development in vocational education. Some of these are: "Implications of New and Changing Occupations for Instructional Development"; "A Study of State Level Administrators of Vocational Education"; and "Preservice and Inservice Specifications for Intervention Methods for Vocational Educators Serving Special Needs Subpopulations". The Center also distributes quarterly 1,800 complimentary copies of a publication, Memo, to vocational researchers, State Education Agencies, teacher education departments, and related agencies in order to foster communication and the exchange of ideas among vocational educators. In addition, 100,000 copies of Vocational Educator are sent free of charge twice a year to secondary and postsecondary teachers, teacher educators, CETA sponsors and other interested groups of people. This publication informs teachers and administrators about new products

which are available from the Center and the kinds of technical assistance available to the field. The National Center has developed 29 Performance-Based Teacher Education Modules, and revised 30 others, designed to develop teacher educators' skills in working with special populations and for their use in the training of teachers.

(C) Training and Development Programs for Vocational Education Personnel (Subpart 2, Section 172)

As indicated in the Populations Served section, awards were made in 1978 to 155 eligible applicants to participate in the Graduate Leadership Development Program at 18 approved universities. As awardees completed their programs during the 36 months of eligibility, 47 alternates were added for a total of 202 individuals served. Nineteen of the 202 completed a masters degree and 127 completed the doctorate while in the program. The awardees were involved in such activities as graduate level course work, seminars, workshops in special populations, internships in national, State and local education agencies such as the U.S. Department of Education, American Vocational Association, National Advisory Council, Department of Labor, U.S. House of Representatives, and U.S. Senate, State Departments of Education, regional offices, area vocational schools, correctional institutions, as well as CETA and other manpower programs. In addition, the participants enrolled in courses in such areas as economics, sociology, psychology, political science, research and statistics. They also participated in or conducted national, State and local conferences or other activities contributing to their leadership development.

Although all 18 institutions had the primary goal of developing individuals for leadership positions, each varied somewhat in how that goal was attained. For example, the overall goal of the program at North Carolina State University was to develop persons for leadership with special emphasis on preparing managers of State, local and national systems and such supporting roles as research and evaluation specialist, curriculum specialist, and teacher educator. Each awardee had objectives in one of these areas, plans of graduate study individually tailored toward those objectives, internships in line with those objectives and formative evaluation of achievement of those objectives. Each program is individualized, and designed to meet predetermined individual needs.

At the University of Minnesota, awardees were involved in such activities as an

especially designed graduate level core course program, seminars, tutorials, workshops, and internships. For individualized leadership development, they also conducted and participated in national, state and local conferences and workshops. Although specific objectives varied among awardees, the program was designed to help all awardees communicate educational concepts; provide effective leadership in programs of vocational and technical education; assess the implications of vocational legislation, policies, and administration at State and federal levels; apply research techniques to problems of evaluations, program planning and operation; and understand issues in society which reflect on vocational education.

Awardees at Rutgers University participated in a program of advanced degree study and research with a strong emphasis on leadership development. Enrichment components of the program included practicum and field experiences to develop professional capabilities and to explore potential career options; national, regional, State and local conferences, seminars, and workshops to discuss current issues and concepts and sharpen leadership skills; field trips and visitations to observe the management and operation of federal, State and local agencies and delivery systems; regularly scheduled meetings and seminars to discuss significant issues, legislation, programs and policies and to exchange ideas with experts in vocational education, related fields, research and curriculum development; and periodic assessment and followup through academic advisement and individual program evaluation which enabled awardees to plan and improve their individualized programs and group leadership activities. Placement information and services were provided by the Department of Vocational-Technical Education as well as the University Career Development Center.

The Graduate Leadership Development Program at The Ohio State University included the following for each participant: core courses in vocational education; courses designed to give each awardee contact with current practices and issues in each vocational field; in-depth course schedules in the participant's leadership specialization, course and personalized responsibilities in related disciplines depending on the needs and interests of the awardee; flexibility in program and structure to meet long-term career goals; field and internship experiences in a wide variety of settings designed for the individual; and opportunities to carry out research through the resources of the university and the National Center for Research in Vocational Education to improve research competency.

A unique leadership development experience has been provided for all awardees each year during the national convention of the American Vocational Association. A full day and two evening sessions are scheduled for a national leadership seminar. This seminar provides the awardees an opportunity to share experiences with each other and to interact with respected and distinguished leaders in vocational education, related fields and business and industry.

The seminar is planned and all details of its operation carried out by national committees of graduate leadership awardees. Awardees served as chairpersons, facilitators, introducers, recorders and evaluators. This active participation in the program and its planning gives a large number of awardees an opportunity to develop leadership skills at a national level. Regional conferences are also planned and held during the year to concentrate on specific issues and developmental experiences of interest to the institutions and awardees in a given Region.

The 188 recipients of fellowships for the Vocational Education Teacher Certification Program also participated in highly individualized programs at the 69 universities they attended. The University of Michigan, Flint, has 19 participants in this program, the highest number of any of the 69 institutions. The certification program is fully articulated with Mott Community College to provide technical skill development and updating. The State of Michigan requires a degree for certification along with competency testing. Seventeen of the 19 completed all of the requirements by the end of the program. Fourteen accepted teaching positions in Michigan, one out of State, and two are continuing graduate programs.

Four of the 12 fellows at Iowa State University were seeking certification to teach vocational agriculture. All four completed certification, three are teaching and one is in education-related agribusiness. The other eight participants enrolled in certification programs for trades and industry. All eight completed the requirements for certification in Iowa and all participated in professional meetings and other experience programs at national, regional, and State levels. A recruitment program was developed by the fellowship recipients and staff for use throughout the State and a slide-tape presentation, brochures and response cards were developed and distributed to community colleges, private institutions, and secondary schools.

California State University, Sacramento, had one fellow who completed her

certification program and is now teaching. The teacher educator at that institution reported that this individual would not have been able to pursue a program of certification without the support of this program. That observation appears frequently throughout reports from the 69 institutions.

All three of the fellows who participated in the program at California State University Long Beach, completed certification requirements. Two of them are teaching part-time and working in the occupation in which they certified. The third individual is continuing her vocational education program at the graduate level. Two of these individuals were previously certified in physical education and one in English. All three participated in the American Vocational Association Weekender for teacher development.

Fourteen fellows participated in the certification program at Florida State University with 10 of the 14 completing certification requirements and accepting teaching positions. This program utilized resources at Tallahassee Community College and Florida A & M University to strengthen its content and experiences for the participants and provided a variety of experiences to increase professional growth, including internships.

MEASURES OF EFFECTIVENESS

(A) Vocational Education Personnel Training (Subpart 3, Section 135)

Only limited, and largely anecdotal, data are available on the effectiveness of State expenditures of Federal funds for program improvement and supportive services through personnel development. The amount of Section 130 funds used for personnel development is a State decision and the data on the amount spent for that purpose, in relationship to the total and to the other five authorized functions, were presented in the section on funding history. VEDS data for FY 1979 show $1.03 of non-federal funds spent by the States on preservice and inservice training for each $1.00 of Federal funds.

The number of full-time personnel development coordinators at State level has steadily declined and responsibility for this function has been shifted to other administrators. Teacher shortages and resources for adequate preservice and inservice preparation of vocational personnel continue to be serious problems. Many four-year

teacher education institutions have reduced their commitment to preservice training. Local schools are closing programs when qualified instructors are not available.

During FY 1980 and FY 1981, on-site management evaluation reviews for program quality included analyses of the State program improvement and supportive services in seven States. There appears to be a greater deficit, quantitative and qualitative, in technical areas of occupational skill development than in professional areas of methodology. Such expressions as "shortages" and "lack of resources" appear frequently in reports and program descriptions. The Condition of Vocational Education, NCES, July 1981, p. III, states that since 1972, the total number of instructional staff has grown by over 50 percent but a profile of staff characteristics suggests that there has been only limited success in providing staff which mirror the heterogeneous nature of the students they instruct.

(B) Program Improvement (Subpart 2, Section 171)

The Federally contracted Projects of National Significance provide a basis for leadership needed to improve the quality of vocational education programs. These projects produce information for decisionmaking and policy concerning national problems. They also develop materials for occupational areas that are changing. The methods, practices, strategies, and products are designed to improve the quality of instruction and administration. Each project must have a dissemination plan which assures that vocational educators are kept informed of the progress and the outcomes of the project.

The procurement, monitoring, and evaluation processes used are the major points of quality control and assurances of effectiveness. Contractors for the projects are competitively selected and within ten days of the award the project director and project officer review and agree on the details of the project. Each contract has a monitoring plan with monthly exception reports reviewed and acted upon by the project officer and contract officer. Site visits to the projects are conducted at least yearly and telephone or report monitoring occurs monthly. Final products and technical reports are reviewed by the project officer, contract officer, and receive a quality review by non-federal reviewers. Contractors disseminate products and conduct training sessions for vocational education personnel concerning the project findings and products. Samples of dissemination and training activities for 13 projects

are given in TABLE 10. Reactions to the training and effectiveness of the products are compiled and summarized.

Each of the six Curriculum Coordination Centers (CCC) reported the dollars saved during FY 1980, by the adoption/adaptation of CCC identified materials as opposed to redevelopment. A total of 765 curriculum-related products developed by other States, were adopted/adapted at a savings of $3,973,200 for the network. During FY 1980, 84 interstate development activities for jointly needed curricula were implemented throughout the 57 States and Territories. Conducting searches is another function of the CCC network. Over 3,000 searches were conducted by the six Centers during FY 1980. Disseminating curriculum materials and information to the vocational education community is an ongoing service of the network. Materials such as curriculum guides, resource guides, special bibliographies, newsletters, catalogs, brochures, and films are disseminated on a regular basis. During FY 1980, 391,442 items were disseminated by the network reaching approximately 224,000 constituents. Requests for CCC consultation, technical assistance and training more than doubled in FY 1980 to a total of over 4,000 such requests. Although most of these requests were handled by telephone or mail, 48 technical assistance visits were made and 349 workshops were conducted for 14,499 participants.

In addition to the quality control measures listed above for Projects of National Signficance, quarterly meetings are held for the Directors of the Curriculum Coordination Centers who plan and implement an inter-region program of work as part of their contract requirements.

The recipient of the five year contract for the National Center for Research in Vocational Education is competitively selected. Each year the Center may exercise its option to renew the contract, and the government negotiates a new one year contract based on prior performance and proposed new work. An Advisory Council, appointed by the Secretary, provides advice to the Center's Director on a quarterly basis. Site visits are conducted monthly by the project officer. Exception reports are reviewed monthly and progress reports quarterly by both the project and contracts officer. Draft products are reviewed by the project officer and program specialists and there is a quality review of all finished products by techincal review panels of non-Center personnel. Two formal evaluation are conducted, at mid-contract and at the end of the contract. The mid-contract evaulation was conducted August 4-8, 1980, by a team of six non-Federal evaluators. This evaluation focused on the Center's management operations and on the six functions around which the Center's congressionally

mandated responsibilities are organized. The evaluation assessed the Center's operations by examining the strengths and weaknesses of its processes, activities, and products. The following are findings from the mid-contract evaluation of the Center:

1. Quality

- o The quality of the Center's products is high.
- o Extensive field involvement in the development of products contributes significantly to the relevancy of the products developed.
- o The product development process is systematic, efficient, and productive.
- o Product impact and usefulness appear to be good.
- o Product dissemination could be extended to a greater diversity of audiences.
- o The staff is highly qualified, and represents diverse areas of expertise.

2. Management

- o The management system is well organized to efficiently and effectively develop numerous products on a tight schedule.
- o Management has established, and is maintaining, both an internal evaluation system and a product review and evaluation system to insure quality in the products developed and in the services provided.
- o An effective communication system is maintained among the staff.
- o Staff morale is high.
- o Management has implemented and is maintaining a staff development plan.
- o Management is using both its staff and fiscal resources effectively.

- Management is able to obtain and maintain both financial and programmatic support from the Ohio State University.

3. Compliance

- The Center is complying with both the letter and the intent of the scope of work of the contract.
- The Center has excellent accountability for both performance and financial areas.
- The Center's operations are restricted by operating under a contract rather than a grant. A grant is a more appropriate funding mechanism for the Center.

Both participant evaluations and on-site reviews of the leadership development functions of the Center have been consistently positive. The mid-contract review reported that "This function has been growing continually. The number of activities offered and the number of participants have been increasing steadily. The Center is responsive to the inservice training needs of the vocational education community. The evaluation forms returned by the participants indicate that a majority have had their needs and expectations met."

(C) Training and Development Programs for Vocational Education Personnel (Subpart 2, Section 172)

Eighteen universities were competitively selected for the Vocational Education Graduate Leadership Development Program. Applications for fellowships from eligible individuals were competitively reviewed and 155 applicants were selected for awards. Yearly site visits were made by project officers and a 28 item evaluation instrument was used with awardees and staff to determine the effectiveness of the leadership programs. The scores on the evaluation instruments average 3.58 on a 4.0 scale for the 18 institutions and their programs. Annual progress reports and final technical reports from the institutions were reviewed by the project officer and grants officer. Nineteen of the awardees completed a masters degree and 127 completed the doctorate while in the program. The participants in this program have assumed positions of leadership in vocational education throughout the Nation as State directors of Vocational Education, university and college administrators, university department chairpersons, executive directors of State advisory councils on vocational education, curriculum developers, researchers, professionals in related agencies such as CETA, special education, and adult education, and members of legislative bodies.

The Vocational Education Teacher Certification Program enabled teacher educators to improve the teacher education programs at their institutions. One-hundred and eighty-eight individuals participated in the program at 69 institutions. Site visits were made to selected institutions by project officers. Annual progress reports and final technical reports were reviewed by the project officer and the grants officer. One-hundred and forty-nine of the 188 fellowship recipients completed certification requirements.

Mr. WASHINGTON. Well, thank you, Dr. Worthington. You'd probably win a contest in speed reading. But thank you for your presentation.

Dr. WORTHINGTON. You said you didn't have much time. I respected that.

Mr. WASHINGTON. You took it seriously. Thank you very much. We'll waive the questions at this time and hear from the other witnesses and then interrogate the witnesses as one group, as one panel.

Dr. Rupert Evans? If you could move over a little bit there?

STATEMENT OF RUPERT EVANS, PROFESSOR, DEPARTMENT OF VOCATIONAL-TECHNICAL EDUCATION, UNIVERSITY OF ILLINOIS

Dr. EVANS. Thank you, Mr. Chairman. It's a particular pleasure, since I am from Illinois, to recognize that the Chair is from that important State, and I think we can even claim the counsel from that important State.

May I introduce Shirley Muehlenthaler from the State of Iowa, who is accompanying me. If she might be recognized, I would appreciate it.

Mr. WASHINGTON. Certainly. When you finish, you mean?

Dr. EVANS. I beg your pardon?

Mr. WASHINGTON. Does she have testimony she wishes to give?

Dr. EVANS. Yes, I believe she does.

Mr. WASHINGTON. All right. When you finish.

Dr. EVANS. Thank you.

I am afraid that some of the things I will have to say might not give you quite as rosy a picture as the previous testimony has given. It seems to me that vocational staff development in this country is in a pretty sad shape and is becoming worse rapidly Most of us in vocational education are agreed that the keys to the revitalization of vocational education lie in the development of a professional staff and in curriculum materials and in facilities and equipment. Those three things are absolute keys to revitalizing vocational education and I believe that revitalization is necessary.

But I would like, if I may, to speak just about professional staff development because I happen to believe that of those three things it is even more important than the other two.

The last time I had the pleasure of testifying before this committee was in 1975 and at that time I reported a very severe shortage of industrial arts teachers. I'd like at this time to point out that that shortage is even worse than it was then and that to that we have to add an extreme shortage of vocational agriculture teachers and the beginnings of a very severe shortage of health occupations teachers.

Indeed, it seems to me that the only area of staff in vocational education in which there are not severe quantitative or qualitative shortages is in the business that I am in, which is vocational teacher education at the university. We, I think, if anything, have a surplus of vocational teacher educators for the universities and I think we've accomplished this in two ways, one of which is highly desirable and one of which is highly undesirable.

The vocational leadership development program, which you have heard described, and I would like to point out that it has been terminated, even though you might have gotten the impression that it was continuing, the new starts in the thing have been terminated. But that program turned out some 300 university faculty members for vocational teacher education, and so one of the things we did then was to increase the supply of vocational teacher educators.

I would like to see the, as you might see from my written testimony, I am recommending that that leadership development program be continued instead of terminated, but that it concentrate on the development of administrators and policymakers rather than on preparing people for university jobs, because in addition to manipulating the supply we have sharply decreased the demand. Now, this is the part that really concerns me. We have university after university in this country terminating its program of vocational teacher education. The most extreme example is in the State of Michigan where I have said in my paper three, but I've just learned of a fourth university there that effectively has terminated its vocational teacher education program.

Now, the reasons for this are diverse. But it basically boils down to one thing, that ever since vocational education started, nationally in this country in 1917, we have had to bribe the universities to provide vocational teacher education. As far as they are concerned, it's a low status operation, and for 50 years virtually every State in the Union bribed its universities to train vocational teachers, and other staff members. But in the 1960's the universities had a good deal of money and so the States said to the universities, "We would like to have you take on this burden yourselves," and the universities took it on, but now that the universities are in financial trouble the first thing they're doing is terminating their vocational teacher education programs.

We have a turnover of about 30,000 vocational teachers every year in the occupational vocational programs. Typically, we graduate about 6,600 occupational teachers with baccalaureate degrees, 6,600 as opposed to 28,000 just for turnover, let alone the amount that we've needed for expansion, and we've been doubling our enrollments in vocational education approximately every 10 years. So, a high proportion of the vocational teachers simply don't have any preparation for it.

We have another severe problem and that is that when vocational education was expanding so rapidly we decreased our standards for employment of vocational educators, decreased the amount of occupational experience that was required in order to become a vocational teacher. We had to do it simply because we didn't have the facilities for training vocational teachers.

Now what is happening, as enrollments in the secondary school go down, we're having academic teachers who are being moved laterally. They're underemployed English teachers, social studies teachers, who perhaps had a year of experience bagging groceries or some other parttime work, who now find themselves called vocational teachers and we're having similar problems with underemployed high school principals who are being moved into vocational administrative slots, even though they may be highly antagonistic to vocational education.

Now, the results are, I think, disastrous, and if we are interested in, as I certainly am, in a revitalization of vocational education, this demands that we do something significant about the training of professional staff.

Finally, I'd like to point out that the involvement of vocational education with the other major occupational training systems in this country is increasing rapidly. We have the military programs, CETA programs, private proprietary school programs, business and industrial training programs, apprenticeship, in addition to vocational education. All of these are concerned with preparing skilled workers for our economy.

I have listed in my paper a number of the ways in which we are becoming more actively involved with these other occupational training systems, and we are losing a considerable number of our best vocational staff to these other training systems. We can see why they want our people but it is creating further shortages for us in our professional staff.

I'd like, if I may, to stop here. I realize your time is limited. I do have a set of written testimony and I would be pleased to respond to questions.

Mr. KILDEE. Certainly. Your written testimony will be included in its entirety in the record.

Mr. EVANS. Thank you.

[Prepared statements of Rupert Evans and Shirley Muehlenthaler follow:]

PREPARED STATEMENT OF DR. RUPERT N. EVANS, PROFESSOR OF VOCATIONAL AND TECHNICAL EDUCATION, COLLEGE OF EDUCATION, UNIVERSITY OF ILLINOIS, URBANA, ILL.

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to discuss vocational teacher education and staff development with this distinguished Subcommittee. Although my testimony speaks principally to activities which are funded or fundable under the Vocational Education Amendments of 1976, I will also refer to other occupational training systems which use vocational teachers.

In order to conserve your time, I have concentrated on the problems, rather than the accomplishments of vocational education personnel department. I wish I had time to describe the very real progress that has been made in building programs which teach teachers how to provide vocational education for the handicapped. in developing linkages between CETA and vocational education. in creating liaison among teacher training programs, in creating leadership development programs which have identified and trained young adults for real leadership roles; and in building career ladders where none existed before.

It is likely that you will hear other testimony today which will speak to some of these accomplishments and will assure you that few problems remain. As you will see, I believe that the remaining problems are substantial, and that many of them are growing instead of receding.

The Revitalization of Vocational Education

For many years the bulk of Federal funding has been used for the operation of local programs of vocational education. It may be unfair to refer to this as the maintenance of existing programs, because a considerable amount of innovation has occured. Never the less, it is clear that vocational education is in need of revitalization, and that a redirection of Federal funding is the best way of ensuring that this occurs.

There are three keys to the revitalization of vocational education. a. professional staff, b. curriculum and curriculum materials, and c. facilities and equipment. Most people will agree that improvements are needed in all three, but my testimony is directed at the development of teachers, administrators, guidance counselors, teacher educators and other staff members. These are the people who make or brake vocational education. No matter how good the facilities or the curriculum, little can be accomplished without capable staff.

The Shortage of Vocational Teachers

When I reported to you last (April 30, 1975), I said that teachers for industrial arts programs which are eligible for Federal vocational education support were in particularly short supply. There's no doubt that this shortage is more severe now. The shortage of teachers of vocational agriculture is far worse than it was then, and the shortage of teachers of health occupations continues to grow. Indeed, I can report substantial alleviation of shortages in only one area. We now have an adequate number of people who are prepared to be university-based teacher educators.

How have we eliminated this one area of shortage? First, by increasing the supply. We trained some 300 professors (and many other leaders) through the Vocational Education Leadership Development Program. Clearly this program has been a major success of Federal action in vocational education.

But we also decreased the demand, by shrinking or closing vocational teacher education programs. The most striking example is in Michigan, where three major universities effectively killed their vocational teacher education programs.

How could it be that in the face of continuing demand for vocational teachers and other staff, some universities have stopped training them and others have decreased their output? The answer lies in the relatively low status of vocational teacher education. For fifty years or more, most states had to bribe universities to offer vocational teacher education. They did this by providing funds for staff salaries and for travel to get them off campus to work with teachers. But during the 1960's, universities were better financed than they had ever been, so state vocational education authorities were able to persuade them to begin funding vocational teacher education. However, during the 1970's, enrollments have decreased sharply in colleges of education, also they have had to reduce staff. The easiest place to reduce college budgets has been in vocational teacher education. Whenever there is a shortage of resources, the higher status cannibals attack the lower status cannibals.

Reducing the size of university-based vocational teacher education programs has nearly eliminated the shortage of vocational teacher educators, but it does not bode well for the future supply of vocational teachers and other staff. It restricts opportunities to train minorities and women as vocational teachers in non-traditional fields. It delays efforts to replace the large number of staff who entered teaching during the 1940's and 50's and who are now retiring. And it hampers attacks on the basic problems of existing vocational staff.

Interaction of Quality and Quantity of Vocational Staff

Project Baseline reported that in 1970 there were more than 200,000 full-time and part-time teachers of vocational education in this country. This number is now near 500,000 (370,000 full time equivalents) More than two-thirds of these (about 260,000 FTE) teach in employment-related occupational programs (NIE, 1980, p VI-24).

Suppose we consider only the employment related teachers, assume a 10 percent turnover rate (the actual rate varies between 7 and 12 percent), and assume no expansion (though enrollments have been doubling each decade) This would require more than 26,000 teachers per year. But in 1979 there were only 6034 baccalaureates in occupational vocational teacher education programs (NIE, 1980, Table VI-14), and about half of them chose jobs other than teaching.

How have LEA's coped with these shortages? The postsecondary and adult programs have reacted by hiring more and more part-time teachers (now about 50 percent of their staff, according to Wulfsberg and Golliday, 1980, Chapter 6). Secondary schools have hired marginally qualified full-time staff, including under-employed academic teachers. The result is a large number of vocational staff members who lack teaching skills or technical skills.

Those Who Lack Teaching Skills

It is not news that many vocational teachers do not have a bachelor's degree or they have it in some non-vocational field. This situation is not all bad. The great majority of health occupations and trade and industrial teachers have always come to teaching directly from employment in the occupation they will be teaching. They bring with them technical expertise that they could not get in vocational teacher education programs.

But they also often bring with them attitudes about the handicapped and minorities, and about traditional sex roles in employment. These attitudes interfere with carrying out Congressional mandates for changes in training which will improve the workings of the labor market.

Moreover, the teachers who have no training for their new occupation rarely have teaching skills which will allow them to serve handicapped individuals through vocational education. They unabashedly "cream" the

students in a search for those who are easiest to train. And, they often carry with them a strain of anti-intellectualism that leads them to denigrate the work of general educators who teach the basic skills which are needed for success in work and in all of life. These attitudes are passed on to their students.

They badly need inservice training in how to teach and how to work in an educational institution. The need is particularly acute among the large numbers of post-secondary part-time staff. But inservice education suffers even more than on-campus instruction when budgets of teacher training institutions are being cut. The first budget cuts to be made are always in travel, equipment and supplies. This keeps the teachers education on campus, teaching classroom courses which require only chalk, instead of getting out to where the teachers are.

Those Who Lack Technical Skills

The teacher who lacks the technical skills of the occupation being taught is likely to be even less effective than one who lacks teaching skills. Many teaching skills can be learned on the job under the guidance of a skilled administrator. But technical skills are indispensible, and many of them can be taught only by another specialist.

Teachers who have taught for several years and have had no contact with their previous occupation are certain to be out of date technically. Skilled administrators who have even minimal resources will arrange for updating experiences to prevent such obsolescence, but local regulations for technical retraining of teachers, usually are geared to the needs of academic, not vocational teachers.

Unfortunately, a new source of technical incompetence is appearing. As secondary school enrollments decline, there is pressure to keep all of the

current staff employed. The underemployed teacher of English who once worked a year greasing cars is shifted laterally into a position as an automobile mechanics teacher. The underemployed social studies teacher who paid her way through school by bagging groceries becomes a teacher of distributive education.

In many states, certification standards for votational teachers were lowered drastically during the 1960's, as enrollments swelled. More teachers were needed, but teacher salaries have not kept up with wages in business and industry. Most schools require that all teachers with the same seniority and training get the same wage, regardless of supply and demand. Because highly skilled workers could not make enough money in teaching, standards were lowered to allow less qualified workers to become teachers. Old requirements for eight or more years of occupational experience were cut to one or two years.

Now we are reaping the harvest. At the very time that we can again employ qualified workers as teachers (because of economic distress in certain industries), the lowered standards allow marginally qualified academic teachers to move into vocational shops and offices. Nor is the problem confined to teaching. Underemployed administrators who are unsympathetic to the goals of vocational education are named as vocational directors simply to keep them employed. The effects on vocational education are horrendous.

Involvement With Other Occupational Training Systems

There are six major training systems in this country which prepare people for non-professional work. military, CETA, business and industry, apprenticeship, public vocational education, and private(independent) schools. There is no coordinated planning for these six systems, and there is very little information about their outputs.

Increasingly, members of training staffs of these six systems are affecting each other. Vocational education staffs are doing more and more training for CETA (about a third of CETA training is now done by public vocational education). After a near-hiatus of 20 years, vocational education staffs are again providing theory instruction for apprentices. Economic development schemes tie together training staffs from business and industry and vocational education. Military training is being subcontracted to vocational schools (eg. one Tennessee school is providing more than 100 instructors to the Navy, and this will increase to 300 next month). Private trade schools are delivering vocational education to public school students. Increasingly, staff members are moving from one of these six training systems to another.

Only the military and vocational education have substantial programs to prepare instructional staff. The other training systems usually train staff on the job or steal them from other training systems.

Military training programs for instructional staff are noted for their brevity, intensity, and technological efficiency. Vocational teacher education provides considerable expertise in working with disadvantaged populations, in relating technical to general education, and in developing entrepreneurial skills. Both are skillful at changing attitudes toward minorities and toward traditional sex roles in employment. The military and vocational education staff development programs have much to learn from each other, and much to teach to the staffs of the other four occupational training systems.

The Future of Vocational Education Staff Development

It seems likely that the Federal government will place more emphasis in the future on program improvement and less on maintenance of existing vocational programs. Clearly, staff development is a key activity in

program improvement. This might lead one to expect a greater emphasis on staff development, but this is by no means assured.

Local education agencies are having severe financial problems. Removal of Federal subsidies for program operation will increase these problems, so each state vocational education agency will be under pressure to continue the flow of funds to the LEA's. The goal will be to identify "program improvement" activities which will substitute for program maintenance activities in the local budget. This will be difficult to do while conforming to the Congressional intent, but ways are likely to be found.

Federal program improvement activities already have been curtailed sharply. The highly effective Leadership Development Program has been killed. (It should have been transformed from a program for researchers and college professors to a program for local and state leadership). The staff development activities of the National Center for Research on Vocational Education have been cut and largely placed on a cost-recovery basis.

University staff development programs are in serious trouble (as outlined above)

The key is obviously at the state level. If state responsibility is fragmented by carving up the pie to allocate funds for post-secondary education, secondary education, and economic development, there may be no one who will see the need for staff development. With the increasing tendency for vocational educators to move to training posts in other occupational training systems, we may find ourselves in the predicament of the military and of business and industry, who hesitate to train workers too broadly for fear that they will quit to go to work for a competitor. The ~~description~~ Oklahoma of vocational teacher education programs and the preoccupation of local administrators with finding funds to maintain "normal" program operation will

lead us in the direction of 'making do" with; (a.) part-time teachers who are technically competent but don't know how to teach special population, and technical incompetents who have been transferred from other teaching jobs.

Recommendations

A. Federal Action

1. Continue to define teacher training and staff development as a permissible program improvement activity at Federal, state and local levels.
2. Require that each state develop a staff development program which:
   a. mandates an Individual Staff Development Plan (ISDP) for every vocational educator (in LEA's, universities and state offices), based on identification of shortfalls in meeting the needs of students.
   b. surveys current staff to assess qualifications, age (to identify impending retirements), and ISDP training needs.
   c. supplements salaries for vocational teachers in subjects where there is a completely inadequate supply.
   d. publicize the fact that there are and will be jobs for vocational teachers, even though there are surpluses in other fields.
3. Reestablish the leadership Development Program to train administrators and other instructional leaders, and to retrain staff members of other occupational training systems to work with vocational education.
4. Create summer technical institute programs, using the model of the 1956 National Defense Education Act technical institute programs, which provided the core of our current post-secondary vocational-technical programs.
5. Write rules and regulations which permit the widest possible variety of state and local staff development activities.

6. Periodically survey and publicize state and local staff development activities which appear to be successful.

B. State and Local Action

(For a list of suggested state and local activities, see my Reauthorization and Vocational Teacher Education).

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PREPARED STATEMENT OF SHIRLEY A. MUEHLENTHALER, INSTRUCTOR, MEDICAL ASSISTANT PROGRAM, DES MOINES AREA COMMUNITY COLLEGE

I consider it a privilege to present to you my perceptions regarding inatructional staff concerns in vocational education.

Many vocational education classroom teachers are facing a problem that could be detrimental to vocational education. That problem is technical obsolescence. We are well aware of the fact that both knowledge and training can become obsolete. If there is no opportunity to update both knowledge and skills, we will not be able to provide students with an education appropriate to meet the demands of today's labor market.

Staff development for vocational educators can be defined as a continuing process of upgrading knowledge and technical skills to meet the demands of the professional field, and to improve their management of the instructional process.

Most educators will subscribe to the theory that staff development represents the key to improve the quality of an educational program. They may also subscribe to a second theory--that the history of in-service for vocational educators has not been one dazzling success after another.

In preparing this testimony I tried to find research data that would indicate where vocational teachers come from, what their educational

backgrounds are, what happens to them as teachers after they are hired in regard to in-service, and whether they stay current in their field. I find there has been research regarding the profile of students as they enter and exit from vocational programs, employment data on graduates, manpower need surveys, and many other factors related to vocational education, but little research on teachers. My comments will primarily reflect what I have experienced as a teacher, and what I have observed and been told by my peers. I am probably as "typical" a vocational teacher as can be found, hired from a professional field with ten years of work experience.

Historically, the vocational education teacher has been prepared as a teacher in the areas of agriculture, business, office, consumer homemaking, and industrial arts education. Teaching is their chosen profession. They prepare to enter the field by formal preparation as a teacher. Typically, this would include at least four years in a postsecondary institution which results in the granting of a degree. Actual work experience in their teaching field may or may not be a part of their background.

Individuals with this type of educational experience have been employed by the secondary, and to a lesser degree by postsecondary institutions in our country for many years.

Another avenue of entry into the teaching field, especially at the postsecondary level, is to be employed because you are a practitioner from business and industry with expertise in a chosen field, but without formal preparation as a teacher. In many fields, adequate skill and knowledge can only be obtained through actual work experience.

Once these teachers have been employed as teachers, their needs for staff development will differ--based on their former experience. Those from business and industry need assistance in how to teach, while those from a teacher education institution may need more extensive exposure to the working world. Regardless of background, both groups will face the challenge of remaining current in their vocational technical field.

What can be done to assure quality instruction from well prepared faculty in vocational technical education? First, we should probably identify the qualities necessary in a vocational teacher. In my opinion, the following qualities are essential:

1. The teacher should be a highly skilled technician, considered to be an expert in his/her field.
2. There must be evidence of adequate related scientific and technical knowledge pertaining to their field.
3. The teacher must be able to communicate, using both written and verbal communication skills.
4. The teacher must be able to assess individual strengths and weaknesses in students to better assist each student in reaching educational goals.
5. Ideally, the teacher should have experience and/or education as a teacher.

Others would probably list additional qualities as essential, or at least desirable, to a successful vocational education teacher.

In reality, this "ideal" individual is rarely available. The institution must accept the responsibility for providing the opportunity for a teacher to acquire skills and knowledge where there is a need for improvement.

The key to a quality program lies directly with the teaching staff. As the skill and ability of the teacher increase, the quality of education for the student will generally improve. Even with a modern facility and up-to-date equipment, students cannot acquire necessary skills and knowledge if the teacher is not adequately prepared as a technician or as a teacher.

My own background is typical of many vocational teachers and illustrates the needs which are common in our field. I am a graduate of a three-year diploma nursing program. In 1967 I was employed five days before classes started to teach in the Medical Assistant and Surgical Technician programs at Des Moines Area Community College. I had ten years work experience, and had most recently been employed by a physician, assisted in surgery and made hospital rounds with him, and as his office nurse assisted with patient care. At the time I began my second career, as a teacher, the area colleges had just been established in Iowa. A late surge in enrollment required another instructor. My only experience as a teacher was with Sunday School children, and as a Blue Bird leader and Cub Scout Den Mother. I was told there were virtually no textbooks written specifically for these fields, and we would develop most of our own materials. In my naivety, I saw no problem with this approach.

I did not know what an overhead projector was, let alone how to prepare a transparency and use this method effectively. Operating copy machines and 16 mm projectors, preparing lesson plans, writing course outlines, descriptions, objectives and tests were just as mysterious. Let me assure you, I never have worked so hard in my life as I did those first

two years. In spite of the long hours and hard work, I usually managed to keep no more than one day ahead of the students.

I know that this type of introduction to teaching does not occur as frequently as it did in the past, but I am sure that it still does occur.

Requirements for certification for vocational education teachers vary among the states. In Iowa, there are specific courses required, to be completed within six years following employment. These courses were offered periodically, usually at a four-year institution 25 miles away. Because of time constraints and frequency of availability, I took the course in teaching techniques four years after I had begun teaching. Through that required educational experience, and experience in the classroom, I soon learned that I wanted to learn more. I have now completed the requirements for a Bachelor of Arts degree and have enrolled in a Masters program in adult education.

Keeping current in my field has been accomplished by attending professional organization meetings, workshops, etc. I also have an advantage in that the students in my program are assigned to a physician's office for clinical experience. In visiting the office and assessing progress of the student, I also learn of new techniques and equipment being used.

In the very near future, I will have to resolve a problem regarding a major change in our curriculum resulting from a new state law in Iowa. Anyone using diagnostic radiology equipment must have taken a course and proven proficiency as outlined in the rules and regulations regarding that law. I have not had such a course myself. Graduates of my program

do use radiology equipment in the physician's office, so we must certainly incorporate this material in our curriculum to meet the needs of both the physicians and the students. At this point in time, I do not know how we will deal with this situation. Until I or the other instructor in my program have an opportunity to gain both scientific and technical knowledge along with practical experience to meet the requirements, we will have to hire an outside instructor. If that instructor has no experience in teaching, we will have to provide assistance in preparing materials. Since there is no funding available for equipment, we will have to arrange time in an outside facility when equipment is available.

This illustration of a changing field is not unique to my profession. One can look at almost any other vocational technical area and recognize changes that require the acquisition of new skills, and a broader scientific and technical knowledge base for instructors.

In business and office education the evolution from manual to electric to self-correcting typewriters and complex word processing equipment requires not only new knowledge and skills, but new approaches to personnel management and equipment maintenance. In auto mechanics, computerized testing equipment is no longer the exception but the rule. Use of the computer in the home and in almost every field will soon be accepted as an essential component of efficient management. Can instructors keep up with these changes?

Technical obsolescence in faculty and instructional materials occurs at a rate commensurate with technological and scientific change in business

and industry. In some areas this may be every year, in others not as frequently, but it will occur. Obsolete instruction will result in graduates not prepared to meet the demands of the world of work. Competent workers require competent up-to-date instruction.

A changing student population is bringing new challenges for the vocational teacher. In the postsecondary institutions, we are already experiencing an increase in the average age of our students. This can be attributed to decreased numbers of high school graduates, and increased unemployment throughout the nation. Many of our students have been out of an educational institution for many years. The education they received did not prepare them for a successful experience in a highly technical vocational program.

Another change is that of enrollment in so called "sex role stereotyped" vocations by members of the opposite sex. This can create the necessity for changing attitudes by instructors and fellow students. For some, this challenge may create no problem. For others, it may create an insurmountable barrier to success for the student.

The instructors are expected to provide alternative learning techniques for various disadvantaged or handicapped students. If these students are to become productive members of society, they must have learning opportunities designed more specifically for their ability to learn or perform specific tasks. Can an instructor with a class comprised primarily of "average" students, teaching five to six hours of class daily be expected to devise the alternatives without release time and/or assistance?

Budget cuts have resulted in reductions in teaching staff. There have also been reductions in counseling services, secretarial support staff, and other services that result in additional work for the teacher. If federal funds for student Work-Study programs are reduced, this benefit to the student and the institution will also be reduced.

This additional work load together with salary increases that have not begun to keep up with the rate of inflation discourage faculty from pursuing any educational goals other than those required for certification.

I do not know about all the states, but in Iowa a vocational teacher in a postsecondary institution can be assigned to "no more than 30 accrued classroom contact hours per week." This represents a work load that is higher than instructors in any other secondary or postsecondary institution. Any type of in-service must be very attractive to the instructor to justify giving any more time than is already spent in performing the required duties of a teacher, unless there is some release time provided. Once again I use myself as an example. I am currently enrolled in a course required for certification for all teachers in the state. It is being conducted on our campus from 4:30 to 8:30 p.m. one evening a week for 11 weeks. I can assure you that my energy level and intellectual capacity are not at their peak after spending a full day at work. How much more effective it would be if we were given release time even for part of that time required.

Another product of decreased funding is an increased number of part-time faculty, which presents another challenge for appropriate in-service.

Can you expect an attorney being paid $18 an hour to teach one course a semester in real estate law to prepare objectives, lesson plans and tests in addition to time spent in class? The majority of part-time instructors are also full-time employees hired for their expertise in a specific segment of an instructional program. How can they be convinced that they should give more of their time, in addition to paying tuition, to become a better teacher when it is not their primary vocation? This problem continues to grow in magnitude as funding cuts have prompted administrators to rely more heavily on part-time staff as a means of meeting a decreased budget.

Attracting instructors on either a full or part-time basis from business and industry has become increasingly difficult as instructors' salaries have steadily fallen behind salaries in many technical fields. In some areas, new graduates are being paid as much or more than their instructors.

How can preservice, ongoing in-service, and technical updating be accomplished? I realize that all of these things must primarily be the responsibility of the local institution. I can also assure you that with decreased funding, these services are among the first to be reduced.

For the new teacher, the orientation or induction process will be the first significant involvement the individual has with the institution. It will directly influence an individual's adaptation to a new position, to the institution, and to their peers. The teacher training institutions play a vital role in developing the teaching skills necessary for

these individuals. Progress has been made in utilizing delivery systems to provide more convenient access, as closed circuit television and telenet systems. This type of delivery, along with other alternatives, should be explored and expanded.

Continuing professional development is directly related to job satisfaction. The need for growth is important to the institution as well, since rapidly changing technology and knowledge can make programs as well as people obsolete if professional development is not a continual process. Students prepared as workers will only be able to perform at the level of instruction available in the institution. If we are to have a work force capable of meeting the demands of the labor market, we must have teachers with those abilities to provide the educational requirements.

Professional development can take place individually or in a group, inside or outside the institution. Personnel policies must be structured to provide release time to develop new media or curricula to meet changing requirements in the field, and changing needs in a student population. Vocational and technical teachers should be given leaves of absence and/or sabbaticals for appropriate work experience to update technical competency. Industrial experience or company training courses may also be a major developmental option to upgrade skills and knowledge.

An institution should provide in-house programs for staff in areas such as developments in education, technology in teaching, leadership development, and didactic approaches. Technical faculty need to be able to

relate their occupational area to manpower and education problems in general, and not to remain an isolated segment of an institution. Teaching skills involved in evaluation, media technology, curriculum development and student counseling can also be appropriate areas for in-service training in all instructional areas of an institution.

While some effects of a professional improvement program can be easily identified, there are other effects that are not so tangible. There are social and psychological effects that occur, and there are broader skills, concepts, and ideas that are shared and learned. These are things that people carry with them for some time after the experience. They are things that make people feel "good" about themselves, their peers, and their profession.

SUMMARY

Many of you will recall the reauthorization of the Vocational Amendments in 1976. Just as it is essential that you now consider changing and updating those amendments to meet new demands of a changing society, vocational teachers who entered the field in 1976 undoubtedly need updating as well.

The past five years have been marked by dramatic change in the majority of our vocational technical areas, creating a critical need for updating teachers in their field. The rapidity of change in some areas requires updating annually. Two years could mean a teacher is no longer current in technical skills.

Decreased federal, state, and local funding has already had a negative impact on the classroom teacher. Reductions in instructional and support staff, decreased budgets for supplies and equipment, and larger classes to meet student demands have all contributed to a heavier work load.

When institutional budgets are examined for the purpose of making reductions, staff development is often one of the first things reduced or eliminated.

Vocational education has made a vital contribution to the economy of our country. One needs only to talk to employers in business and industry and the impact becomes obvious. These same employers will also tell you that there is still a demand for trained employees in many technical areas.

A skilled work force is essential to future economic growth. Given the necessary support, the vocational education system can provide the education and training to supply that work force. Competent, up-to-date instruction is essential to achieve this purpose.

Federal legislation through the law and its regulations should give strong encouragement to state and local agencies to utilize funds for technical update of instructional staff.

Good vocational teachers want to teach. They want to teach students salable skills, to work with people and help them become worthwhile, productive individuals. Most vocational teachers can work in other industry-related jobs if they want to. They teach school by choice. We need support and assistance in remaining current and upgrading instructional skills at all levels.

Thank you for the opportunity to express my concerns, and to present these recommendations to you.

Mr KILDEE. We appreciate your summarizing. Our next witness is Dr Maude Goldston, coordinator, Division of Professional Development, Virginia Department of Education.

STATEMENT OF MAUDE GOLDSTON, COORDINATOR, DIVISION OF PROFESSIONAL DEVELOPMENT, VIRGINIA DEPARTMENT OF EDUCATION

Dr. GOLDSTON. Good morning, Mr. Chairman, and distinguished members of this very important subcommittee. I am Maude Perkins Goldston, coordinator of personnel and professional development, Virginia Department of Education in Richmond, Va. I'm delighted that you asked me to come. Thank you for this opportunity.

I have been a vocational teacher for business education, distributive education, and now a personnel development coordinator, and I appreciate this time that you've given me.

I would wish to share with you a concept of personnel development, a brief description of the delivery system in Virginia, and the personnel development activities.

Under separate cover I have given a listing of materials and statistical data to sort of give you background information as to where we are coming from in personnel development.

Personnel development is the process whereby people are assisted for the improvement of the delivery of services in staff development, preservice and inservice education. This process includes some research, curriculum development, and demonstration activities. The Vocational and Adult Division within the Virginia Department of Education recognizes the need for this delivery system for personnel development and did so before Public Law 95-76, to provide adequate programs of teacher education for vocational education and for the purpose of preservice and inservice education.

Preservice education is provided through approved public and nonpublic institutions of higher education. This training includes courses in general, professional, and technical subject matter, which meet or exceed the requirements of the certification regulations for Virginia teachers in the various vocational education program fields.

Inservice education is offered by teacher educators, State and local supervisory staff, and special consultants, working both independently and cooperatively Such education is provided through regular institutional courses, short intensive courses, local and statewide summer workshops, national, State, area, and local conferences, to say nothing of the many school visits.

Inservice education includes improvement of instructional techniques, preparation of instructional materials, leadership training, curriculum development, and the technical aspects of the occupational field Inservice education courses may or may not carry college credit.

With the assistance of Public Law 94-482 the State plan for vocational education through the Virginia Department of Education has administered and managed the personnel development system since 1970 It is believed that the system was effective because it was coordinated, systemmatically planned, and comprehensively administered The activities focused upon the inservice education

needs of vocational and adult personnel, as determined by a planning council.

The activities were based on the council's priorities and were developed and implemented by State staff and the approved teacher education institutions. The inservice education programs were concerned with improving instructional techniques and competency-based education. Integrating student organization activity with the curriculum, preparing instructional materials, pursuing sex equity, securing other needed materials in keeping up with the changing occupations were also employed.

The personnel development system has provided the framework for the comprehensive planning for the professional staff Each service area and each staff member is able to determine priorities and develop an action plan. Supervisory staff members periodically assess the extent to which goals and objectives are being met by each staff member and by service plans and at the end of each fiscal year, an accountability report on vocational and adult education in Virginia is provided.

Mr. Chairman, you have copies of those documents.

At this point please allow me to share some of the personnel development activities implemented. The outcomes of other activities are documented in the accountability report.

Sixty-eight vocational State staff received information on comprehensive employment and training that would help them expand vocational activities determined to be Education-CETA linkages. Sixty-eight vocational staff members assembled for an annual conference to consider critical issues identified in the State plan. Vocational personnel made presentations on critical issues, the State staff's role in providing services for the disadvantaged, the handicapped, and the gifted and talented, State staff's role in articulation in the competency-based projects that were research and exemplary, the standards of learning program, designed after the vocational education competency based programs in Virginia.

What makes the vocational education student organization different? The new procedures for grants and contracts. Progress in determining needs in vocational education through health occupations, agriculture education, industrial arts, and trade and industrial education. Other issues and concerns addressed by our panel consisting of administrator-directors, directors of program services, and the director of adult and continuing education.

Virginia Commonwealth University conducted a leadership development project for local directors of vocational education. There were 165 administrators who focused attention on conserving energy and dealing with the energy problem, youth legislation, cooperative education reports, local advisory councils, handicapped students in regular vocational education programs, and the targeted jobs tax credit.

A personnel development project for 25 Virginia community college personnel provided inservice educational competency-based education and developed strategies to articulate secondary and postsecondary institutions. These are but a few of the activities administered and managed by the divisions in vocational and adult education.

In spite of the often-quoted "One Federal dollar to 10 State and local dollars," many personnel development activities could not have helped improve programs in vocational education or could not be carried out without those dollars.

The accountability report calls for comprehensive planning with many audiences, teachers, administrators, advisory councils, chief State school officers, parents, businesses, and industries. Please think with me for a few more minutes as I present recommendations based on critical needs to be considered in drafting the vocational education reauthorization legislation.

We need vocational education teachers now in agriculture, health occupations, industrial arts, and trade and industrial education now. We need technical updates for vocational teachers and administrators in all program fields, now. Enrollment in public education as a whole is decreasing but enrollment in vocational public education is increasing. You will see a listing in the supplementary material.

Mr KILDEE. Dr. Goldston before you go into your specific recommendations, Mr. Petri and I have to cast our votes on the floor of the House It will take us about 7 minutes to do that and the hearing will resume when we return. Thank you.

Dr GOLDSTON Just take these recommendations with you. Thank you.

Mr. KILDEE. We'll hear your recommendations when we return. The subcommittee is in recess.

[Brief recess.]

Mr. KILDEE. Let's come back to order.

There is a series of 1-minute speeches on the floor of the House right now that will probably be followed by another vote. That will probably interrupt us, again, but, if you'll be patient, we would like to be able to hear your ideas during the questioning period.

Dr Goldston, would you continue with your testimony now?

Dr GOLDSTON. Thank you, Mr. Chairman, and distinguished panel members.

Please know the greatest investment any nation can make is the investment in its human resources for economic development. The recommendations I am about to make now are the culmination of the personnel development coordinators around the Nation. I wanted to make sure that my position in Virginia and the way I work agreed with other personnel development coordinators in the Nation. These are the recommendations.

Identify vocational education personnel development as separate from program improvement and support services, even though it's a support service, and set aside a fixed amount of money for funds.

Permit curriculum development to link to personnel development and to be funded, through grants procedures, from program improvement and support services funds.

Mandate or call for statewide, comprehensive planning of personnel development, including the following. a system for preservice, graduate, and inservice activities, and attention to the developmental needs of teachers, administrators, and specialists.

Place a focus on personnel needs in all program areas, agriculture, home economics, distributive education, business, health, technical, trades and industrial, and industrial arts.

Personnel development at all levels in which vocational programs are offered. Personnel development required as a part of the culmination of all other program improvement components. Research, exemplary and curriculum development.

Personnel development needs identified, at minimum, through the results of the program evaluations mandated through Public Law 94-482 and forthcoming legislation. An identified staff to be accountable for implementing the plan.

Mandate that State use of Federal vocational funds for program improvement be contingent on the development of a comprehensive plan for personnel development.

In addition to personnel identified as being eligible for vocational personnel development in title I, section 135, of Public Law 94-482, vocational teachers, administrators, trainers of teachers, and vocational guidance and counseling personnel includes aides, business and industry volunteers, and members of local advisory councils on vocational education.

Include a comprehensive planning model for vocational education personnel development in regulations following the forthcoming legislation.

Clarify whether industrial arts personnel are eligible for personnel development funds from program improvement and supportive services, subpart 3.

Mandate a fixed percentage of personnel development funds be set aside for special needs personnel development.

Set aside funds for vocational teacher education from program improvement and supportive services funds to include:

Vocational teacher education development and implementation of a systemmatic plan to produce a pool of teachers in highest demand. We need that now, sir.

The release of these funds by each State upon approval of each institution's comprehensive plan for preservice personnel development.

Specify in forthcoming regulations that vocational teacher education comprehensive plans include means to:

Determine current and projected supply and demand for teachers by vocational program area.

Recruitment, including incentives.

And train new teachers needed now.

Involve all vocational teacher education institutions, State staff involved in personnel development, selected local staff involved in personnel development, and those responsible for certification in planning and implementation:

Provide special emphasis on program modifications and adjustments to meet changing needs in teacher education institutions.

Provide special emphasis on training regular classroom teachers in terms of equity based on students' disadvantages, students' handicaps, students' sex, and students' bilingual abilities.

Update university, community college, and secondary teachers in the state of the art program content, knowledge, and skills. We can't keep up with the machinery.

Infuse results of inservice activity into teacher training.

Train vocational guidance and placement personnel.

Develop a yearly accountability report based on above requirements.

Thank you, Mr. Chairman, and distinguished members of this panel. I have submitted to you a listing of support data to my presentation. Thank you very much.

Mr. KILDEE. I thank you very much, Dr. Goldston, for your testimony.

[Material submitted by Maude Goldston follows:]

PREPARED STATEMENT OF MAUDE PERKINS GOLDSTON, ED. D., COORDINATOR, PERSONNEL AND PROFESSIONAL DEVELOPMENT, VIRGINIA DEPARTMENT OF EDUCATION, RICHMOND, VA.

Introduction

Good morning, Mr. Chairman and distinguished members of the United States House of Representatives' Subcommittee on Elementary, Secondary, and Vocational Education. I am Maude Perkins Goldston, Coordinator, Division of Personnel and Professional Development, Virginia Department of Education, Richmond, Virginia. I'm delighted to be here with you. I wish to share with you a concept of personnel development, a brief description of the delivery system, and personnel development activities in Vocational and Adult Education in Virginia.

Testimony

Personnel development is a process whereby people are assisted for the improvement of the delivery of services in staff development, and in preservice and inservice education. This process includes research, curriculum development, and demonstration activities.

The Vocational and Adult Education Division within the Virginia Department of Education recognized the need for a delivery system for personnel development before PL 90-576 to provide adequate programs of teacher education for vocational personnel, and allowed certain accredited teacher education institutions to provide preservice and inservice education programs.

Preservice teacher education is provided through approved public and nonpublic institutions of higher education. This training includes courses (in general, professional, and technical subject matter) which meet or exceed the requirements of the Certification Regulations for Virginia Teachers in the various Vocational Education program fields.

Inservice education is offered by teacher educators, state and local supervisory staff, and special consultants working both independently and cooperatively. Such education is provided through regular institutional courses, short intensive courses, local and statewide summer workshops; national, state, area, and local conferences, and school visits. Inservice education includes improvement of instructional techniques, preparation of instructional materials, leadership training, curriculum development, and the technical aspects of the occupational fields. Inservice education courses may or may not carry college credit.

With the assistance of Public Law 94-482 and the State Plan for Vocational Education, the Virginia Department of Education has administered and managed the personnel development system since 1970. It is believed that the system was effective because it was coordinated, systematically planned, and comprehensively administered. The activities focused upon the inservice education needs of vocational and adult education personnel as determined by a planning council. The activities were based on the Council's priorities, and were developed and implemented by State staff and the approved teacher education institutions.

The inservice education programs were concerned with improving instructional techniques in competency-based education, integrating student-organization activities with the curriculum, preparing instructional materials, pursuing sex equity, securing other needed materials, and keeping up with changing occupations.

The personnel-development system has provided the framework for comprehensive planning for the professional staff. Each service area and each staff member is able to determine priorities and develop an action plan. Supervisory staff members periodically assess the extent to which the goals and objectives are being met by each staff member

and by service plans, and at the end of each fiscal year, an accountability report on vocational and adult education in Virginia is provided. (See the report for fiscal year 1980).

At this point please allow me to share some of the personnel-development activities implemented. (The outcomes of other activities are documented in the accountability report.) Sixty-eight vocational State staff received information on comprehensive employment and training that would help them expand vocational activities determined to be education/Ceta linkages. Sixty-eight vocational staff members assembled for an annual conference to consider critical issues identified in the state plan. Vocational personnel made presentations on the following critical issues:

"The State Staff's Role in Providing Services for the Disadvangated/ Handicapped/Gifted and Talented;"

"State Staff's Role in Articulation and Competency-Based Projects (Research and Exemplary);"

"The Standards-of-Learning Program for Public Education in Virginia (General Education);"

"What Makes the Vocational Education Student Organizations Different."

"New Procedures for Grants and Contracts;"

"The Progress of the Articulation of Vocational Education;"

"Peninsula Project;"

"Progress in determining Teacher Needs in Vocational Education, Health Occupations, Agricultural Education, Industrial Arts, and Trade and Industrial Education;"

Other issues and concerns addressed by a panel consisting of administrative directors, directors of program services, and the director of Adult and Continuing Education.

Virginia Commonwealth University conducted a leadership development project for local directors of vocational education. There were 165 local administrators who focused attention on, conserving energy and dealing with the energy problem, youth legislation; cooperative education report; local advisory councils, handicapped students in regular vocational education programs; and the targeted jobs tax credit.

A personnel-development project for twenty-five Virginia community college personnel provided inservice education on competency-based education and developed strategies to articulate secondary and postsecondary institutions.

These are but a few of the activities administered and managed by the divisions of vocational and adult education.

In spite of the often-quoted ratio of one federal dollar to ten state and local dollars, many personnel-development activities that could have helped improve programs in vocational education could not be carried out. The accountability report calls for comprehensive planning with many audiences, teachers, administrators, advisory councils, chief state school officers, parents, businesses and industries.

Please think with me for a few more minutes, as I present recommendations, based on critical needs, to be considered in drafting the vocational education reauthorization legislation.

1. We need vocational teachers of agriculture, health occupations, industrial arts, and trade and industrial education now!
2. We need technical update for vocational teachers and administrators in all program fields now!

Enrollment in public education as a whole is decreasing, but enrollment in public vocational education is increasing.

Recommendations

Target enough funds in forthcoming legislation containing programs of national significance, for a national conference, or regional conference for State persons responsible for personnel development. The purpose of such conference(s) would be to disseminate, at least exemplary results of other projects of national significance.

Change the fixed 20% presently set aside for program improvement and support services (Subpart III) to a minimum ratio, which each State may increase.

Identify vocational education personnel development as separate from program improvement and support services, and set aside a fixed amount of funds for personnel development.

Permit curriculum development linked to personnel development to be funded, through a grants procedure, from program improvement and support services funds.

Mandate statewide comprehensive planning of personnel development to include the following:

A. A system for preservice, graduate, and inservice activities, and attention to

B. The developmental needs of teachers, administrators, and specialists.

C. A focus on personnel development needs in all program areas (agriculture, home economics, distributive, business and office, health, technical, trades and industrial, and industrial arts).

D. Personnel development at all levels in which vocational education programs are offered.

E. Personnel development required as part of the culmination of all other program improvement components (research, exemplary, curriculum development, etc.).

F. Personnel development needs identified, at minimum, through the results of the program evaluations mandated in P. L. 94-482 and forthcoming legislation.

G. An identified staff to be accountable for implementing the plan.

Mandate that State use of federal vocational funds for program improvement be contingent on the development of a comprehensive plan for personnel development.

In addition to personnel identified as being eligible for vocational education personnel development in Title I, Section 135 of P.L. 94-482 (vocational teachers, administrators, trainers of teachers, and vocational guidance and counseling personnel), include aides, business and industry volunteers and members of local advisory councils on vocational education.

Include a comprehensive planning model for vocational education personnel development in regulations following the forthcoming legislation.

Clarify whether industrial arts personnel are eligible for personnel development funded from program improvement and supportive services (subpart III).

Mandate a fixed percentage of personnel development funds be set aside for special needs personnel development.

Set aside funds for vocational teacher education from program improvement and supportive services funds to include:

A. Vocational teacher education development and implementation of a systematic plan to produce a pool of teachers in highest demand.

B. The release of these funds by each state upon approval of each institution's comprehensive plan for preservice personnel development.

Specify in forthcoming regulations that vocational teacher education comprehensive plans include means to:

-Determine current and projected supply and demand for teachers by vocational program area,

-Recruit (including incentives) and train new teachers needed,

-Involve all vocational teacher education institutions, state staff involved in personnel development, selected local staff involved in personnel development, and those responsible for certification in planning and implementation,

-Provide special emphasis to program modifications and adjustments to meet changing needs in teacher education institutions,

-Provide special emphasis on training regular classroom teachers in terms of equity based on:

1. Students' disadvantages;
2. Students' handicaps;
3. Students' sex; and
4. Students' bilingual abilities.

-Update university, community college, and secondary teachers in state-of-the-art program content, knowledge and skills,

-Infuse results of inservice activities into teacher training,

-Train vocational guidance and placement personnel,

-Develop a yearly accountability report based on the above requirements.

SOURCE: REIMBURSEMENT FOR ALL 1979-81 FULLTIME STUDENT EQUIVALENTS - VERS 1 SECONDARY CLASS ENROLLMENT FORM

SECONDARY

OE Code	Service	Total Enrollment 1979-80	1980-81
01	Agricultural Education	23,831	23,231
04	Distributive Education	16,544	15,735
07	Health Occupations Education	2,504	2,632
08	Consumer Economics Education	75,763	75,153
09	Occupational Economics Education	4,718	5,186
10	Industrial Arts Education	52,602	71,417
14	Business Education	64,403	66,358
17	Trade and Industrial Education	33,650	34,601
	*TOTAL	274,015	294,313

* These totals give duplicated head counts.

NOTE: The unduplicated head count for 1980-81 was 250,628 students.

Department of Education—NCES
Washington, D.C. 20202
*Vocational Education Data System (VEDS)

Form Approved
FEDAC #R139
Approval expires
June 30 1983

STATE Virginia REPORTING PERIOD 1980-81 DATE SUBMITTED 12-1-81

SECONDARY TEACHER-STAFF REPORT

OCCUPATIONAL PREPARATION Program Assignment	SECTION I Total Staff Unduplicated Head Count		SECTION II Total Staff (Unduplicated Head Count) Racial-Ethnic Designation				
	Total	Female	American Indian/ Alaskan Native	Asian or Pacific Islander	Black, Not Hispanic	Hispanic	White Not Hispanic
Instructional Staff							
01 00 Agriculture	394	37	2	2	68	2	320
04 00 Distribution	348	160	0	1	23	0	324
07 00 Health	162	160	2	0	11	1	148
09 02 Occupational Home Economics	174	174	0	2	45	0	127
14 00 Office Occupations	1,490	1,324	3	11	331	2	1,143
16 00 Technical	0	0	0	0	0	0	0
17 00 Trade & Industrial	1,174	180	1	11	187	4	971
99 00 Other NEC	112	58	0	1	21	0	90
09 01 Consumer & Homemaking	765	764	1	5	146	1	612
10 00 Industrial Arts	770	41	3	7	170	1	589
Other Staff							
Local Administration/Supervisory	147	45	0	0	20	0	127
Local Program Support	99	48	3	0	24	0	72
State Administration/Supervisory*	48	14	0	0	13	0	35
TOTALS (Unduplicated)	5,683	3,005	15	40	1,059	11	4,558

NCES Form 2404-1, Page 1 of 1

This report is authorized by PL 94-482 (20 USC 2391).

*State Administration/Supervisory staff may be only reported once by the State, either on 2404-1 or 2404A-1 at the State's option.

SOURCE: 1979-80 COMMUNITY COLLEGE DATA

Postsecondary
(Community College)

OE Code	Program Title	Part A	Part B	Total
01	Agricultural Education	435	-	435
04	Distributive Education	2,355	-	2,355
07	Health Occupations Education	3,353	-	3,353
08	Consumer Economics Education	-	-	-
09	Occupational Economics Education	-	-	-
10	Industrial Arts Education	-	-	-
14	Business Education	22,540	-	22,540
16	Technical Education	9,774	-	9,774
17	Trade and Industrial Education	9,445	-	9,445
99	Other NES	-	45,714	45,714
	TOTAL	47,902	45,714	93,616

Information needed from RCU and other certain supervisors
for FY 81 Accountability Report

1.1 By June 30 enrollments of secondary students in regular occupational preparation programs will be as follows:

	Projected	Actual	
Agricultural Education	26,100	21,688	
Distributive Education	15,995	15,025	
Health Occupations Education	3,268	2,801	
Occupational Home Economics Education	5,409	5,710	
Business and Office Education	57,117	55,275	
Trade and Industrial Education	36,900	33,816	
		TOTAL	134,315

1.2 By June 30 enrollments of disadvantaged students in special secondary occupational programs will be as follows:

	Projected	Actual	
Agricultural Education	1,002	3,001	
Health Occupations Education	307	525	
Occupational Home Economics Education	969	1,522	
Business and Office Education	2,196	4,082	
Trade and Industrial Education	3,348	4,769	
Limited English-speaking proficiency	420	591	
		TOTAL	14,490

1.4 By June 30 enrollments of handicapped students in special secondary occupational preparation programs will be as follows:

	Projected	Actual	
Agricultural Education	76	318	
Health Occupations Education	0	114	
Occupational Home Economics Education	342	572	
Business and Office Education	223	337	
Trade and Industrial Education	1,284	1,660	
		TOTAL	3,001

2.1 By June 30 enrollments of post-secondary students in occupational preparation programs will be as follows:

	Projected	Actual
Agricultural Education	401	
Distributive Education	1,717	
Health Occupations Education	2,713	
Business and Office Education	17,716	
Technical Education	9,028	
Trade and Industrial Education	3,581	
Developmental		

3.1 By June 30 enrollments of regular students in adult programs will be as follows:

	Projected	Actual	
Agricultural Education	8,712	4,269	
Distributive Education	25,451	10,059	
Health Occupations Education	2,269	2,074	
Home Economics Education	12,955	8,550	
Business and Office Education	17,632	10,172	
Technical Education	290	0	
Trade and Industrial Education	28,826	16,687	
Apprenticeship	8,710		
		TOTAL	51,811

3.2 By June 30 enrollments of disadvantaged students in adult programs will be as follows:

	Projected	Actual	
Distributive Education	345	1	
Health Occupations Education	48	31	
Home Economics Education	645	31	
Business and Office Education	180	89	
Trade and Industrial Education	2,953	768	
		TOTAL	920

3.3 By June 30 enrollments of handicapped students in adult programs will be as follows:

	Projected	Actual	
Distributive Education	174	99	
Business and Office Education	95	155	
Trade and Industrial Education	993	523	
Home Economics Education	1,499	49	
		TOTAL	826

4.1 By June 30 students will complete secondary occupation preparation programs or leave school prior to completion with a marketable skill as follows:

	Projected	Actual	
Agricultural Education	2,750	2,224	
Distributive Education	5,520	5,670	
Health Occupations Education	672	842	
Occupational Home Economics Education	1,849	1,304	
Business and Office Education	7,944	8,953	
Trade and Industrial Education	10,531	9,193	
		TOTAL	28,186

4.2 By June 30 students will complete post-secondary occupation preparation programs or leave school prior to completion with a marketable skill as follows:

	Projected	Actual
Agricultural Education	94	
Distributive Education	142	
Health Occupations Education	845	
Business and Office Education	1,733	
Trade and Industrial Education	523	
Technical	668	

4.3 By June 30 students will complete long term adult occupation preparation programs or leave school prior to completion with a marketable skill as follows:

	Projected	Actual	
Agricultural Education	3	8	
Distributive Education	84	63	
Health Occupations Education	1,480	790	
Occupational Home Economics Education	0	30	
Business and Office Education	271	90	
Trade and Industrial Education	1,038	336	
Apprenticeship	1,348	1,115	
		TOTAL	1,317

4.4 By June 30 the number of students participating in work study programs and the number of programs will be as follows:

	Projected	Actual
Student	872	1,784
Programs	44	--

5.1 By June 30 enrollments in secondary consumer and homemaking programs will be as follows:

	Projected	Actual
Regular	66,893	62,243
Disadvantaged	3,920	1,671
Handicapped	1,868	10,334

6.1 By June 30 enrollments of adults in consumer and homemaking classes will be as follows.

	Projected	Actual
Regular	10,676	8,107
Disadvantaged	400	19
Handicapped	1,479	2

7.1 By June 30 enrollments in orientation and exploration programs will be as follows:

	Projected	Actual	
		Secondary	Adult
Industrial Arts			
Regular	63,759	54,070	298
Disadvantaged	2,927	6,864	164
Handicapped	1,294	1,476	3
Program Fields			
Regular	4,256	11,789	22
Disadvantaged	87	160	-
Handicapped	45	1,661	-
Disadvantaged (Special)	1,993		
Handicapped (Special)	238		

9.1 By June 30 membership in all vocational student organizations will be as follows:

	Projected	Actual
Future Farmers of America	20,000	
Future Business Leaders of America	15,200	
Distributive Education Clubs	16,005	
Future Homemakers of America	19,000	
American Industrial Arts Student Association	3,000	
Vocational Industrial Clubs of America	16,700	
Young Farmers of Virginia	2,000	
Young Homemakers of Virginia	900	
Phi Beta Lambda	742	
Health Occupation Students of America	800	

10.1 By June 30 teachers will complete pre-service education programs through teacher education institutions in the State leading to certification as follows:

	Projected	Actual
Agricultural Education	48	
Distributive Education	56	
Business and Office Education	92	
Home Economics Education	59	
Industrial Arts Education	78	
Trade and Industrial Education	33	

10.2 By June 30 professional personnel will be enrolled in Vocational Education inservice program as follows:

	Projected	Actual
Agricultural Education	410	
Distributive Education	425	
Health Occupations Education	450	
Home Economics Education	830	
Industrial Arts Education	733	
Business and Office Education	1,061	
Trade and Industrial Education	1,352	
Administration	200	
Special Programs Personnel	300	
Apprenticeship	40	

11.1 By June 30 local administrators and vocational guidance counselors will be as follows.

	Projected	Actual
Local Directors	82	
Local Assistant Directors	3	
Local Supervisors	60	
Vocational Guidance Counselors in Area Vocational Schools	25	
Center Principals	42	
Center Assistant Principals	41	

12.1 Each program field service will develop competency based guides and/or units as follows:

	Projected	Actual
Agricultural Education	15	
Distributive Education	19	
Health Occupations Education	3	
Home Economics Education	4	
Industrial Arts Education	3	
Business and Office Education	5	
Trade and Industrial Education	7	
Across the Board	3	
Apprenticeship	1	

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SOURCE: TEACHERS DAILY ASSIGNMENT FORM

SECONDARY VOCATIONAL TEACHERS
1979-1981

Service	Total Unendorsed		Total Endorsed		Total Teaching	
	1979-80	1980-81	1979-80	1980-81	1979-80	1980-81
Agriculture	16	18	391	382	407	400
D.E.	15	19	345	342	360	361
Health	14	18	133	147	147	165
Home Economics	9	13	999	964	1,008	997
Industrial Arts	104	125	967	935	1,071	1,060
Business	119	131	1,437	1,410	1,556	1,541
Trade & Industry	156	149	1,011	1,080	1,167	1,229
TOTAL	433	473	5,283	5,260	5,116	5,733

Mr. KILDEE. Our next witness is Dr. George L. O'Kelley, Jr., professor and chairman of the Division of Vocational Education, the University of Georgia.

Several years ago when we in Michigan were trying to upgrade our vocational education program a number of us traveled to Georgia where we had heard that a great program already existed We were impressed with what we saw in Georgia. I came back to what is looked upon as the great industrial State of Michigan to help improve our vocational education there. We are beholden to the State of Georgia.

Dr. O'Kelley?

STATEMENT OF DR. GEORGE O'KELLEY, JR., PROFESSOR AND CHAIRMAN, DIVISION OF VOCATIONAL EDUCATION, UNIVERSITY OF GEORGIA

Dr. O'KELLEY. Thank you, Mr. Chairman, for those kind remarks. I too think that Georgia has a very fine program of vocational education. We are now undergoing some of the same growth that you have already gone through in industrialization and it is affecting our program.

As you have stated, I am a professor and chairman of the Division of Vocational Education at the University of Georgia and am currently serving as president of the university council for vocational education, a national organization composed of major institutions offering a comprehensive vocational teacher education program, which includes a doctoral degree in vocational education

Of course, these institutions during the past 10 years, as Dr Evans has indicated, have been involved in the graduate leadership training program, along with preservice and inservice programs for vocational teachers. Therefore, I am deeply appreciative of this opportunity to discuss our problems with you and to make some recommendations for your consideration.

Out of respect for the time constraints which I know you are operating under, I would like to briefly comment on this matter and have the privilege of filing a statement with you for the record.

Mr. KILDEE. Thank you. Your entire prepared statement will be included in the record.

Dr. O'KELLEY. Thank you, sir.

First, I want to lend what support I can to all the groups throughout the country who will be talking with you about the expansion and strengthening of vocational teacher education programs in the Nation's colleges and schools. I am completely in agreement with my friend and colleague from Illinois about the results of the program of personnel development in the last few years.

I think that I would have to agree that it has not only been a travesty but it is now approaching the proportions of a national tragedy as far as vocational education is concerned, in terms of the preparation of the classroom teachers in vocational education and, more recently, the administrators of vocational education programs.

I would, with your permission, like to go back, briefly, to the early beginnings of the federally-supported program of vocational

education. The original Smith-Hughes Act, of course, mandated that teacher preparation in States utilizing funds appropriated under the Smith-Hughes Act would be required to contract with universities and colleges for the preparation of teachers.

In my opinion, that foresight paid off in a magnificent fashion. The tremendous progress of vocational education in the early years, I think, could be attributed largely to the quality of the teachers who conducted the programs. The records, I am sure, will show that teachers of vocational agriculture, home economics, business, industrial arts, and distribution were rated as among the best qualified and performing teachers in the Nation's classrooms. They were the product of strong campus-based programs.

Now, in recent years teachers of trade and industry as well as the health occupations field have historically been drawn directly from business, industry, and health services, with as much teacher education preparation as could be injected into their programs before they went into the classroom. The tremendous growth in vocational education has been in those particular areas, and consequently the efforts to bring large numbers of technically-competent but professionally untrained teachers into the classroom has been most demanding in terms of the available resources.

Consequently, more and more emphasis has been placed on quick, intensive, training programs to satisfy certification requirements. Real, substantive, teacher preparation programs too often have been replaced by short-term training programs. The need for inservice programs has grown astronomically and the resultant commitment of limited resources has eroded the support for college and university-based professional teacher education programs.

The quality of vocational classroom instruction, as Rupert has said, and administration now, has seriously declined because of these poorly trained teachers and administrators. As a result, the reputation of all vocational education has been seriously affected.

Unfortunately, this situation is not going to change immediately. These same areas will continue to expand at a very rapid rate and the need for preparation of people to enter those positions is growing constantly In my opinion, unless heavy infusion of funds to support vocational teacher education in institutions of higher education is made to service this need, we will soon face an emergency relative to the quality of vocational instruction in our public schools We simply cannot have a vocational education program of high quality without a core of strong, career-type teachers in the classrooms and administrators directing their work.

Personnel development is the most critical need vocational education faces today While I'm on this subject I would like to point out that all business, industry, and government leaders are in agreement that one of the great demands confronting vocational education today is the tremendous expansion of high technology programs in our economy, and you people in Michigan certainly know that to be true.

The resulting demand for highly skilled workers to fill these jobs and help the Nation meet worldwide competition is a challenge. Such technologically-oriented industries demand workers with high levels of skills and technical knowledge. We must expand and strengthen university and college-based vocational teacher educa-

tion programs in order to prepare the kinds of teachers needed for currently-operated programs, as well as the emerging world of technology.

I would support this claim with the following explanation. One, the programs now in place are operating and require only support and acceleration. Two, this will keep vocational teacher education in institutions of teacher education and in relationship to other respected teacher education programs.

Three, a quality control mechanism is already in effect in these institutions in the form of the national council on accreditation of teacher education standards. Standards must be maintained and they will be in these institutions.

Four, the process of teacher licensure assumes common educational attributes. Parenthetically, commonality across teacher groups, in other words, all kinds of teachers are being trained in these institutions. Vocational education is just one of them.

Five, the degree of specialization available in these institutions results in teacher preparation programs of the very highest quality.

Six, these programs provide for transferability, and that is most important in the professional teacher world, which is not present, and if it is not present in the other programs, it locks teachers into one job or one institution. They cannot move laterally from State to State.

So, I would say that if vocational education is a part of a national policy, and I certainly hope that it is and continues to be, then personnel development becomes a vital component and its realization can be best assured through strong fiscal support of proven university and college-based teacher preparation programs.

As my colleague has just said, so many of these programs are being washed away at the present time, it is appalling in terms of the future of vocational education.

Now, if I may quickly speak relative to a position that has been taken by the council for vocational teacher education, the university council which I represent, we who are engaged in providing vocational teacher preparation have deliberately focused in this document our attention upon a limited set of programs which, A, should be managed by the Federal Government and B, emphasize personnel and leadership development and the creation and application of new knowledge, processes, and products, relevant to national problems and priorities.

These are the kinds of programs which build the capacity of the bureaucracy to reach outside of itself for initiative to enliven and improve the field, and I insist that vocational education has matured to that point where we should be able to go outside of our own ranks and stand the heat of investigation and evaluation and bring into our thinking the very best that we can.

Therefore, we would recommend, and this pertains not only to professional development, personnel development, but also to research and programs which you will be considering at a later date. So, we recommend first a national center for research in vocational education, the continuation of that concept. We recommend the establishment of 10 to 15 independent institutes scattered throughout

the country and, third, support for individual applied study projects.

All of these would contribute to more effective and efficient personnel development programs and, ultimately, to a vastly improved program of vocational education, which of course is our total aim.

Now, in the interest of time may I concentrate on the merits of legislation which would create 10 to 15 independent institutions, because I must conserve your time.

In these universities which we have talked about, exists an array of intellectual and research excellence and teaching expertise, coupled with technical facilities and scholarly commitment probably not equaled anywhere else in the world. Our land grant institutions, I may say, are the envy of the world, and our teacher training programs are located in practically all of them.

These institutes that I recommend would be located in departments of vocational teacher education with comprehensive teacher preparation and strong doctoral levels of study. They would be required to conduct programmatic, applied studies on such specified aspects of Federal priorities and to establish working relationships with one or more of the other fields or disciplines, particularly relevant to the problem focus of the institute, namely, economics, sociology, or psychology. We would have an institute in a great university campus and the people in vocational teacher education would be working with their colleagues in these various other fields to bring to bear on vocational education the expertise which is there.

They would combine applied studies with graduate level vocational education In other words, the same concept that we had with the graduate leadership program would be in place here. The students would be working in this kind of mix for their professional development.

The students would be involved in a highly functional type of leadership and personnel development merging scholarly investigation and study with practical field applications and experience. They would establish linkage with related fields, bring research, leadership training, personnel development, into a close, mutually-supportive relationship.

In summary, the council's proposal is seen as a means of utilizing the creativity for research and development that now exists among vocational educators and focusing it upon the solution of some urgent nationwide problem, building institutional capacity for applied studies and leadership development in vocational education, including closer working relationships with other academic fields and facilitating linkages among institutions of higher education without imposing structure.

Briefly, may I summarize our overall recommendations simply as being, one, continued support for a national center for research in vocational education Two, the funding of 10 to 15 independent institutes as described Three, support for individual applied studies projects Four, and we join Dr. Evans in this, a continuation of the graduate leadership development program, which incidentally could be linked closely to the independent institutes which have been recommended.

Finally, require a State plan for personnel development with emphasis on university and college teacher education study.

Thank you, Mr. Chairman, and if I may file my statement, I will do so.

Mr. KILDEE. Thank you very much, Dr. O'Kelley. We will include your entire statement in the record.

[Material submitted by George O'Kelley follows:]

PREPARED STATEMENT OF DR GEORGE L. O'KELLEY, JR., PROFESSOR AND CHAIRMAN, DIVISION OF VOCATIONAL EDUCATION, COLLEGE OF EDUCATION, THE UNIVERSITY OF GEORGIA, ATHENS, GA.

I am George L. O'Kelley, Professor and Chairman of the Division of Vocational Education at the University of Georgia. I am currently serving as President of the University Council for Vocational Education, a national organization composed of major institutions offering a comprehensive vocational teacher education program which includes a doctoral degree in vocational education. During the past ten years, these institutions have been deeply involved in the Graduate Leadership Development Program in Vocational Education as well as in the pre-service and in-service preparations of all kinds of vocational teachers. This Graduate Leadership Development program grew out of the 1968 Vocational Education Amendments.

I deeply appreciate the opportunity to appear before this committee to support the recommendations of the University Council for Vocational Education pertaining to personnel development. Before I go into these recommendations, I wish to lend what support I can to the request of all groups seeking the expansion and strengthening of vocational teacher education programs in colleges and universities throughout the country.

A. State Managed Programs

The Smith Hughes Act of 1917 mandated support of college based teacher education programs as a condition for grants to support vocational education in the public schools. This foresight paid off in a magnificent fashion. The tremendous progress of vocational education during those early years can be largely attributed to the excellent vocational teacher education programs developed in colleges

and universities throughout the nation. The teaching excellence of vocational education teachers during those years was outstanding, in fact their credentials were generally equal to, or superior to, any teacher group in public education. The record shows that teachers of vocational agriculture, home economics, business, industrial arts and distribution were rated among the best qualified and performing teachers in the nation's classrooms. They were the products of strong campus based programs.

Teachers of trade and industry as well as of health occupations have historically been drawn from business, industry and the health service field with as much teacher education as possible provided in beginning teacher institutes and in-service programs. The tremendous growth in vocational education in recent years has been in these instructional areas. Consequent effort to bring large numbers of technically competent but professionally untrained teachers into the classroom has been most demanding in terms of available resources. Consequently more and more emphasis has been placed on quick, intensive training programs to satisfy certification requirements. Real substantive teacher preparation programs too often have been replaced by short-term training programs. The need for in-service programs has grown astronomically and the resulting commitment of limited resources has eroded the support for college and university based professional teacher education programs. The quality of vocational classroom instruction has seriously declined because of poorly trained teachers. As a result, the reputation of all vocational education has been seriously affected.

Unfortunately, the situation is not going to improve under present circumstances. The trade and industrial education and the

health occupations education areas will continue to experience great expansion and the need for more and more teachers in those fields will continue. In my opinion, unless heavy infusion of funds to support vocational teacher education in institutions of higher education is made to service this need, we will soon face an emergency relative to the quality of vocational instruction in our public schools. We simply cannot have a vocational education program of high quality without a corps of strong career type teachers in the classrooms. Personnel development is the most critical need vocational education faces today!

During recent years a trend relative to the selective criteria, as well as the pre-service professional preparation requirements for secondary school vocational education leadership personnel has become obvious. As the number of such positions has increased the supply of qualified and experienced vocational education personnel available has been depleted. Unfortunately, too many school executives have turned to the increasing reservoir of available administrators from other school programs to fill this void. State Departments of Education have assisted by revising certification requirements to legitimize this practice. Today, far too many new vocational education programs in secondary schools are headed by administrators with no prior experience or professional preparation for vocational education leadership except in intensive, abbreviated staff development workshops. These all too often deal with the minutia of reporting, compliance with regulations, etc. The basic philosophy and, in fact, program conceptualization of such individuals is of even more concern.

In one major state, 45% of the secondary school vocational education administrators report no teaching experience or pre-service professional preparation in the field of vocational education other than a short staff development workshop prior to the assumption of full responsibility for all vocational education programs in a comprehensive high school. Unless certification requirements are strengthened and in-depth professional preparation mandated for such leadership positions the future of vocational education at the secondary school level is in serious jeopardy.

While we are on this subject, may I point out that all business, industry and government leaders are in agreement that one of the great demands confronting vocational education today is the tremendous expansion of high technology programs in our economy. The resulting demand for highly skilled workers to fill these jobs and help the nation meet world wide competition is a challenge. Such technologically oriented industries demand workers with high level skills and technical knowledge. Teachers of students preparing for such jobs must be especially well prepared for such an undertaking. A new breed of teachers is coming into being and current staff development programs cannot meet this demand for specialized teachers. Yet the nations' colleges and universities already have in place the very finest programs and personnel in the area of science, economics, mathematics and educational technology which could be teamed with vocational teacher education to prepare teachers for high technology programs.

We must strengthen and expand university and college based vocational teacher education programs in order to prepare the kinds of teachers needed for currently operating programs as well as for

the emerging world of technology. May I offer the following justification for this claim:

1. These programs represent a presently operating mechanism which merely needs acceleration and utilization.
2. Utilization of these programs will keep vocational teacher education in institutions of teacher education and in relationship to other respected teacher education programs.
3. A quality control mechanism is already in effect in these institutions in the form of National Council on Accreditation of Teacher Education (NCATE) standards.
4. The process of teacher licensure assumes common educational attributes (commonality across teacher groups) which may be readily achieved through common requirements now accepted in university and college programs.
5. The degree of specialization available in established programs results in teacher preparation programs of high quality.
6. These programs provide for transferability which if not present locks teachers into one job or one institution.

If vocational education is a part of national policy, personnel development then becomes a vital component and its realization can be best assured through strong fiscal support of proven university and college based teacher preparation programs. Support for such programs should be assured and their utilization required.

B. Federally Managed Programs

And now may I move to another proposal concerning the support for vocational teacher education programs in major universities. We who are engaged in providing vocational teacher preparation have deliberately focused our attention here upon a limited set of programs which (a) should be managed by the federal government, and (b) emphasize personnel and leadership development and the creation and application of new knowledge, processes and products (applied studies) relevant to national problems and priorities. These are the kinds of programs which build the capacity of the bureaucracy to reach outside of itself for initiative to enliven and improve the field. These include:

1. A National Center For Research in Vocational Education.
2. Ten to fifteen independent institutes.
3. Support for individual applied studies projects.

All would contribute to more effective and efficient personnel development programs and ultimately to a vastly improved program of vocational education which is our total aim.

In arriving at this proposal certain basic assumptions were made:

1. The primary goal of the federal leadership role is to help provide means for continuous program improvement.
2. Applied studies and leadership development are among the most essential means for program improvement.
3. The federal government can best manage programs which are designed to serve federal priorities and alleviate nation-wide problems including long range reforms.

4. Creative talent and resources for applied studies in vocational education exist in many locations throughout the country. The effort at applied studies should not be centralized.

I am sure strong support for continued funding of a national center for research and for support of individual applied studies projects will be forthcoming at another hearing. In the interest of time, therefore, may I concentrate on the merits of legislation which would create and support, for a five year period, ten to fifteen independent institutes which would be located in some of the nation's great land grant universities. In these universities exists an array of intellectual and research excellence and teaching expertise coupled with technical facilities and scholarly commitment probably not equaled anywhere else in the world.

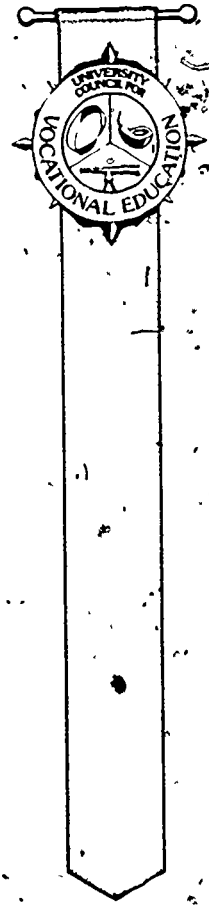
Each of these institutes would be located in a department of vocational teacher education with a comprehensive teacher preparation and strong doctoral level program of study. They would be required to be engaged in programatic applied studies and leadership training in vocational education designated to address specified federal priorities and to establish working relationships with one or more other fields/disciplines, (e.g., economics, sociology, psychology, etc.), particularly relevant to the problem focus of the particular institute. They would combine applied studies with graduate level vocational education and the students would be involved in a highly functional type of leadership and personnel development merging scholarly investigation and study with practical field applications and experiences. The institutes would establish linkages with related fields and bring research, leadership training and personnel development into a close mutually supportive relationship.

In summary, the Council's proposal is seen as a means of utilizing the creativity for research and development that now exists among vocational educators and focusing it upon the solution of some urgent nationwide problems, building institutional capacity for applied studies and leadership development in vocational education, (including closer working relationships with other academic fields), and facilitating linkages among institutions of higher education without imposing structure.

We sincerely believe these proposed institutes would provide an appropriately restrained but at the same time dynamic setting for merging graduate level leadership development efforts with systematic research and investigations and the dissemination of fundings through various types of action programs. Not only would scholarly productivity be assured but personnel development as a related effort would be supported. The resulting products and expertise would be available for export to the entire vocational education endeavor.

In conclusion may I restate our overall recommendations as follows:

1. Continue Federal funding for a National Center for Research in Vocational Education.
2. Fund the establishment and operation of ten to fifteen independent institutes on selected university campuses for a five year period.
3. Provide support for individual applied studies projects.
4. Require a state plan for personnel development with emphasis on university and college based study.



FEDERALLY-MANAGED PROGRAMS OF APPLIED STUDIES AND LEADERSHIP DEVELOPMENT

University Council for Vocational Education

MEMBER INSTITUTIONS

Auburn University
Colorado State University
The University of Connecticut
The University of Georgia
University of Kentucky
University of Minnesota
University of Missouri - Columbia
North Carolina State University at Raleigh
The Ohio State University
Oklahoma State University
Oregon State University
Rutgers, The State University of New Jersey
Southern Illinois University
The University of Illinois
University of Tennessee
Virginia Polytechnic Institute and State University

University Council for Vocational Education
University of Connecticut U-93
Storrs, CN 06064

July 23, 1981

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A Proposal for the Reauthorization of the Vocational Education Act

As its principal concern, the University Council for Vocational Education focuses on the qualitative improvement of vocational education throughout the nation. This paper is a proposal for three kinds of programs to be included in the reauthorizing legislation for vocational education--programs which the Council regards as essential to increasing the long term efficiency and effectiveness of vocational education.

1. A National Center for Research in Vocational Education.

2. Ten to fifteen independent "institutes".

3. Support for individual applied studies projects.

In framing this proposal, the Council has deliberately focused upon that limited set of programs which (a) should be managed directly by the federal government rather than by each state, and (b) emphasize leadership development and the creation and application of new knowledge, processes, and products (applied studies) relevant to national problems and priorities. They are not, of course, the only kinds of programs designed to improve the quality of practice, but they are the kinds of programs which build the capacity of the bureaucracy to reach outside of itself for initiatives to enliven and improve the field.

Rationale

In arriving at its proposal, the Council has made five basic assumptions:

First, a primary goal of the federal leadership role is to help provide means for continuous improvement in the quality of vocational programs. The history of federal vocational legislation reveals an increasing recognition of this goal.

Second, applied studies and leadership development activities are among the essential means for achieving program improvement. More specifically, when the processes of research, development, dissemination, and leadership training are applied to pertinent vocational problems, situations, and personnel, they yield new information and knowledge, better processes and products, more effective policy, and more competent leaders. [Other essential means include planning and evaluation, as well as the education of all professional personnel.]

Third, there are federal priorities and national concerns which all states have in common, and there are problems and priorities which are unique to states (or groups of states). The federal government can most efficiently manage those programs designed to serve federal priorities and alleviate nationwide problems, including the introduction of long-range reforms in the vocational system. By contrast, states are best equipped to manage the programs intended to address their unique interests and circumstances. State-managed programs are more apt to result in qualitative refinements in the existing system than in major reforms, but the outcomes are, nevertheless, critical to maximizing the impact of each state's operating vocational programs.

Fourth, creative talent and resources for applied studies in vocational education exist in many locations throughout the country. To take advantage of this potential and to maximize the likelihood of important qualitative gains in the field, the effort at applied studies should not be centralized.

Fifth, and finally, the efficient use of federal resources demands that support for program improvement be provided in a manner which (a) permits both the accomplishment of national priorities and the alleviation of unique state problems, (b) increases the capacity and long-term commitment of institutions throughout the nation to both applied studies and professional development activities in vocational education, and (c) minimized federal administrative costs.

Federal Priorities/Nationwide Problems

What then are the federal priorities and nationwide problems that federally-managed programs of applied studies and leadership development should address? The following three are certainly among the currently most critical and pervasive. These, and others like them identified by the federal government, provide the ultimate goals--the targets--toward which vocational program improvement activities should be directed.

1. Provide equal educational opportunities for all persons. (This goal includes increasing access to, and probability for success in, vocational programs for the disadvantaged, minorities, etc.)

2. Increase the productivity of the workforce to facilitate economic recovery, reduce inflation, and improve the national defense. (Vocational education can, for example, improve the basic skills, occupational competence and work attitudes of individuals, train unemployed youth and retrain or upgrade older workers, create job opportunities through preparation in small business management skills, help increase worker satisfaction, etc.)

3. Increase energy resources and reduce energy consumption. (Vocational education can prepare workers for energy-related occupations and help develop appropriate skills and attitudes in both workers and consumers.)

Proposed Federally-Managed Programs

Because the Council has limited its immediate concern to programs of leadership development and applied studies (creation and application of new knowledge, processes, and products), this proposal does not address the potential need for other types of federally-managed programs which may also be designed to improve the quality of vocational education. Such programs might include (a) National and State Occupational Information Coordinating Committees, (b) regional curriculum coordinating centers, and (c) instructor renewal programs to develop alternative means for updating the occupational competence of teachers, improving their ability to work with more heterogeneous groups of students, and recruiting and preparing instructors for energy-related occupations.

Three independent but interrelated programs are, however, advocated by the Council as efficient means for the federal government to provide the necessary nationwide effort at leadership development and at conducting applied studies which address the national priorities listed above. These three federally-managed programs should be specified in the language of any new vocational education legislation.

1. The new legislation should extend authorization for a National Center for Research in Vocational Education, retaining its present functions. These functions include: (a) conducting applied research and development on selected problems of national significance in vocational education, (b) providing leadership development through an advanced study center (at the post-doctoral level) and occasional inservice education activities, (c) disseminating the results of the research and development projects funded by the National Center, (d) developing and providing information to facilitate national planning and policy development in vocational education, (e) acting as a clearinghouse for information on applied studies contracts made by the states and by the Secretary, and (f) providing technical assistance to states, local educational agencies, and other public agencies in developing methods of planning and evaluating vocational programs

2. The new legislation should authorize the creation of ten to fifteen independent "institutes", each for a period of three to five years. The "institutes", to be located in departments of vocational (teacher) education in colleges and universities, would engage in programmatic applied studies and leadership training in vocational education designed to address federal priorities and alleviate nationwide problems. The "institute" concept can be thought of as a logical extension and combination of the Graduate Leadership Development Program (aimed solely at leadership development) and the earlier Congressional intent to create research centers in regions of the country. As conceived herein, "institutes" would be selected by the Secretary of Education from among those proposed by colleges and universities, and would be required to (a) be administered through vocational teacher education units with strong doctoral-level

programs, (b) conduct programmatic applied studies on some specified aspect of the federal priorities, (c) establish working relationships with one or more other fields/disciplines particularly relevant to the problem focus of the "institute", e.g., economics, sociology, psychology, (d) combine applied studies with graduate-level vocational education, (e) utilize the National Center and other "institutes" as resources, and as collaborators where appropriate, to facilitate cooperative undertakings. Thus, as envisioned by the Council, the creation of "institutes" would add a new extra-bureaucratic dimension to the field. They would build on existing institutional strengths, focus research creativity and sustained effort on urgent nationwide problems, establish linkages with and use the expertise in fields related to vocational education, and bring research and development, leadership training, and teacher education into a close, mutually supportive relationship.

3. The new legislation should authorize support for individual applied studies projects. These projects should tap the widest possible array of talents and approaches to the solution of nationwide problems in vocational education. Consequently, multiple procurement modes should be utilized by the Department of Education, such as RFP's and field-initiated proposals, including a program of small grants, that result in the award of both contracts and grants.

In summary, the Council's proposal is seen as a means of utilizing the creativity for research and development that now exists among vocational educators and focusing it upon the solution of some urgent nationwide problems, building institutional capacity for applied studies and leadership development in vocational education, (including closer working relationships with other academic fields), and facilitating linkages among institutions of higher education without imposing structure.

Mr. KILDEE. We have had a very distinguished panel this morning and we will now have questions of you.

Before we do that, I'd like to thank Dr. Ethel Smith who is with us this morning. Dr. Smith is a professor of vocational education at the University of Michigan-Flint who is on a very productive sabbatical, working here with the subcommittee, and has helped set up this hearing this morning.

Thank you, Dr. Smith.

I'll start with a basic question. Yesterday the Washington Post reported that our Budget Director, Mr. Stockman, has proposed that the Department of Education cut vocational education by at least $300 million for fiscal 1983. That would be a cutback from around $800 million to no more than $500 million. Could you advise this committee as to what you think would be the effect of such a cut upon vocational education?

You may start, Dr. Goldston.

Dr. GOLDSTON. Mr. Chairman, if we in the States get that kind of a cut, I perhaps would like to say what kind of people are you going to get for economic development in this country through secondary and postsecondary education? We are not going to be able to maintain vocational education programs at the level we have now, to say nothing about training teachers. We need teachers now. This is a frightening question.

Mr. KILDEE. Are there any other comments?

Dr. O'KELLEY. I would like to respond to that. As you well know, Georgia State and local funds represent, I guess, 95 percent of the funds for vocational education. The amount that comes from the Federal level, of course, is limited, and it would be understandable for someone to say, "Well, that could be cut off and the program would go on as usual," and it will, but not the kind of program we have today These funds are committed to programs in the public schools and construction of facilities, provision for those kinds of things, but the kinds of things that you were talking about today is where we will suffer. The funds will not be put into this and in the effort to meet the increasing demand more and more untrained teachers will be put into classrooms and more and more administrators who, for one reason or another are available, will be put in charge of vocational programs.

You would not believe, sir, that some days in my office I talk to people that come in and ask me what they would have to do to get a certificate to head a vocational school and I learned that they are in position, for one reason or another, to be appointed to such positions, and just discussing with them the nature and content of vocational education is just unbelievable, and yet they will wind up in charge of these programs and I insist that we need these Federal funds, particularly in this area of personnel development. That's where it will show its greatest worth.

Mr. KILDEE. So while in Georgia, as in most States, the Federal funding is not that large, it is crucial in this development?

Dr. O'KELLEY. Absolutely, sir. If I could be facetious for just a moment, I heard a vocational person out in the rural areas of Georgia say that it amounted to about this, that a worker with a $200 a week income and he managed to live on it, but his boss called him in and said, "We're going to have to cut your pay $5," and they

thought that wouldn't amount to much, and this persons said, "Well, it just amounts to this. that I have $50 for house rent and $50 for this and $50 for this and $50 for that, and it adds up to $195. So what you have done with that $5 is to take my carton of beer," and what you have done if you cut this out is to eliminate our programs and I think that we will not be the major ones to suffer. Vocational education in Georgia will suffer, and I suspect it's true in other States.

Mr. KILDEE. Doctor?

Dr. EVANS. Mr. Kildee, I'm Rupert Evans. I think the best answer to your question is to look at the continuation of past trends. What we've had for quite some period of time is a decreasing proportion of the vocational education budget which has come from Federal funds, and a superficial examination of this indicates that if you keep on cutting Federal funds, the States and the local agencies will increase their budgets and the net result will be that the burden on the Federal budget is reduced.

But, what we have to take a look at is what has happened to program quality. Now, some of my friends in the profession don't like to hear me say this, but I believe very sincerely that particularly in the last decade that the quality of vocational education has decreased as the enrollment has gone up, and it seems to me that the role of the Federal Government in this vocational education establishment is to act as an agent for program improvement.

If we can concentrate the Federal funds on program improvement we will be able to reverse this decline, what I perceive as a decline in quality.

Now, I'm happy about the increased enrollment. Don't misunderstand me. But when the increased enrollment comes at what I see as the expense of program quality and as we are moving more and more—toward more and more part-time teachers who bring with them from the world of work some attitudes that we are seeking to change, I am concerned not just about the total dollars but I am also concerned about the purposes to which the Federal funds are put. If those Federal funds can be concentrated on program improvement activities solely, we will be able to accomplish a good deal more with them than I think has been the case during the last decade.

Mr KILDEE. I think it's incumbent upon people like yourself, who are leaders in vocational education, to let the executive branch of Government know what the effect of such cuts would be. Very often once proposed, such cuts become virtually, in this present climate, impossible to turn around. I think that once you get a distant early warning, as we did yesterday in the Washington Post as to proposals for cuts you should seek input with the executive branch of Government before that becomes the official proposal sent to the Congress.

The administration says it is very concerned with the reindustrialization and modernization of this country to allow it to compete with other parts of the world. I know in my own State the automobile industry has to modernize to compete with mainly Japan. There seems to be no recognition by the administration, however, that vocational education plays a very significant role in that reindustrialization. You can't really have one, I don't think,

without the other. The enormous changes, that are taking place in poroduction. methods, require just in the area, say, of machine repair, a quality of training, that just doesn't exist to any great extent in this country. We really have to expand enormously upon that.

Studies have shown that a major reason for teacher shortages in some vocational areas is that teachers are lured away by industry. That was true even 17 years ago when I was still teaching. The AC Division of General Motors in Flint, Mich., would often lure away with a much better salary some of our very best vocational education people.

How can we deal with that today when the Federal Government, the States and local school districts are all cutting back in education spending? My own State of Michigan has cut back on its State level funding, so significantly that it does not even bear its former share of the funding burden, let alone take up the slack created by the Federal cuts.

What can we do about that particular problem though, to keep our really good vocational education teachers in vocational education rather than in industry?

Dr. EVANS. I think that there are two parts to the problem. One of them is the supply, and I am sorry to see Michigan, which I regard as a leader among the States, being a leader in the cutback in vocational teacher education programs.

We normally expect that the graduates of vocational teacher education programs—about half of them will go to work in vocational teaching. The other half will go immediately into business and industry. But if we continue, as I am sorry to report that Michigan is doing, the killing of vocational teacher education programs, we're cutting off the supply.

But the other side of this thing is in improving working conditions for vocational teachers so that they're not lured away after they get started into teaching. And the problem here is essentially one of working conditions, including salary. We have a problem, as you are well aware, that the typical teaching salary schedule is based on an overall supply and demand for teachers and there is a tendency to employ all teachers at the same rates of pay, assuming a certain amount of experience and a certain amount of training. But if you have a vocational field in which the employment in business and industry can attract a person and we have a teacher who is turning out people who had 2 years of training in their program and the students go out and earn more money than the teacher is being paid, it is not unlikely that you're going to find that that teacher will begin to follow his students or her students.

And I think the only solution to this is that we have to have State supplements to teachers' salaries in areas where there is this imbalance between supply and demand and imbalance in wages.

Mr. KILDEE. Dr. Worthington?

Dr. WORTHINGTON. Mr. Chairman, as a member of the executive branch, Assistant Secretary for Vocational and Adult Education, I would like to tell you what we're attempting to do to help alleviate this problem. We're attempting to involve the private sector much more in a collaborative effort between vocational education, business, industry, and organized labor.

There's no question that it's extremely difficult to recruit a highly skilled technician to become a teacher when he or she may have to take a salary cut of 50 percent. We want to give the private sector opportunities to provide fellowships, to provide subsidies, to provide teacher exchange programs where a person could be loaned from industry for a high technology program, for example, for a given period of time, then go back to the job.

We have a national task force that we have established in my office, and we hope, as that task force's work evolves, to be able to report to your committee some significant activity in this regard.

Ms MUEHLENTHALER. Mr Chairman, I am Shirley Muehlenthaler from Des Moines Area Community College. I am one of those people that these people are referring to—a classroom teacher. And Dr. Evans alluded to improved working conditions and I feel, as a teacher, I simply must respond to that.

The funding cuts that have come down from the Federal, State, and local level, have affected the classroom teacher drastically. Those cuts not only in staff people, but in support services—we are doing more of our own counseling because the counsellors are not available I have become an 80-word-per-minute typist, even though I am a nurse, because the secretarial staff has been cut.

There are all kinds of support services that have resulted in increased loads Most teachers are not teaching because they make a lot of money. They want to teach, but when that load becomes unbearable and you end up putting in a 12-hour day and going out on Sunday afternoons just to stay even with the board, you are going to lose good people. It is just as plain as handwriting on the wall.

So the improved working conditions, I feel, are very important. The salaries? Yes.

I teach in a health occupations program and within the last 3 years we have had a great deal of difficulty in hiring good people because of the shortage in the health area, and it is one of the fastest growing industries in the country and we are getting into some very highly technical areas.

As to teacher education and upgrading, we are not only expected as teachers from the field, as I am, to get the courses in education to make us better teachers, but as changes happen in our field, we are automatically expected somehow, by some magic formula, to stay up with all those changes Most institutions have some kind of a policy whereby you can earn professional leave and use that time to either go back to school or go back to the field. But with funding cuts, that's not even being done because there's no money there to hire a substitute for you.

So we need support in that area.

Mr KILDEE I think the whole question of teacher compensation fits into that. I feel that our society as such has not faced up to the remuneration of those who educate our children. I look in this area around Washington, D.C., and I find it incredible. I find Fairfax County to be a very good school system—that's one of the reasons why I located my Washington area home there. I have children in the fourth, fifth, and sixth grades in Fairfax County schools. One of my children's teachers came to me seeking a job in my office, and I found out that the lowest paid person in my office was paid more than the teachers at that school. Those teachers have to buy at the

same grocery stores and the same clothing stores as other people in the area. I just don't think that we as a society have yet faced up to the question of the important role of the teacher in general

I taught for many years. I remember that in my first year of teaching I was paid $3,000. That was quite a while ago. When I was elected to the State legislature in 1964, I got elected to a higher paying job. I was making less as a teacher than I did in that post, by quite a bit. I was making less than $7,000 a year with a master's degree and a year beyond the masters, with 8 years in the system and I got a $3,000 pay raise when I went to the State legislature. I am not demeaning the State legislature, but I think that is an illustration of the problem.

I think that is a problem in education in general, and because of the skilled personnel that are very often being demanded in greater numbers, perhaps a more immediate problem in vocational education.

Mr. Petri has been very patient with me down there. You'll be next. I think Dr. Evans wanted to respond too. Dr. Evans?

Dr. EVANS. Thank you. I am pleased to see that Dr. Worthington and the Department of Education are expanding their contacts with the private sector, and I applaud that. But I want to point out that the big growth in employment in this country has come in very small firms that employ 100 or less. If my calculations are correct, during the last decade 80 percent of the growth in the labor force has occurred among places that employ 100 people or less Most people simply do not have the resources to provide training programs for their own employees and they are turning more and more to vocational education asking for help. And so I am not wildly optimistic about the private sector's ability to help us with our shortages of vocational teachers.

And among the large employers, I have heard the rumor—and you would know better than I about this since you come from Michigan—that General Motors—and I, too, was once an employee of theirs—is thinking about closing out General Motors Institute, which, I regard as one of the premier employee training programs in the country. The rumor has shaken Flint, of course, as General Motors, in some way, is seeking to change definitely its relationship with GMI. One of the proposals is to divest itself of GMI So General Motors, one of the biggest corporations in the world, is having a hard time in its own vocational education program.

Mr. KILDEE. Indeed.

Mr. Petri? Thank you for your patience.

Mr. PETRI. That is all right. I was very interested. I think perhaps the solution is that State legislators and congressional staff are overpaid rather than teachers underpaid. I think we have to narrow that gap one way or the other. In this environment, it might be easier to join the people at Uniroyal and other companies who are voluntarily accepting rollbacks.

Mr. KILDEE. If the gentleman will yield, I can recall when I was teaching at Flint Central High School. I joined the American Federation of Teachers, which at that time, before Public Act 379 in Michigan, was the only teacher union available to me. There are two now. We used to go to the meetings where it was pointed out that the head janitor at Flint Central High School made more

money than the teachers, which was true. And finally, I said, "You know, will we be successful if we are able to get the head custodian's salary down to ours or will we be successful if we convince the board of education that our services are as valuable as his? So I approach it from that point of view.

Mr. PETRI. I will be very brief. I think we have about five more minutes and then I think we are probably going to have to wrap this up.

Just one or two questions. I was a little unclear in listening to the statements and testimony as to whether you feel that there should be a difference in approach in maintaining current, up-to-date vocational teaching practices between secondary and postsecondary vocational programs. It is certainly important in both areas, but at the secondary level the ability of people to get into a lot of specialized areas where there is rapid change and considerable cost involved in updating and keeping current equipment and all that would be much less than at the postsecondary level, and you might want different approaches in the two areas.

Is that true or is that wrong or does anyone have any reaction to that? When you are talking about a high school course, you are trying to teach basic work habits and give people perhaps secretarial skills or some other skills, but not teach them electronic equipment repair or some of the things where there is constant changing at a much higher cost to vocational instruction.

Is that an accurate perception or am I all wet?

Dr. EVANS. Well, I think the major difference between secondary and postsecondary vocational programs is that the thing that is happening in postsecondary is that we are turning more and more toward part-time teachers—people who are employed full time at the occupation that they are teaching and then they teach in the evening or on weekends or whenever in the postsecondary program.

Now, those people tend to be well qualified technically, but they are not very well qualified in dealing with special populations—minorities, women, the handicapped. They are just not prepared to do it.

Now, the secondary level, the thing that I think we are going to be facing is that as we have a shortage of young workers due to the change in birth rates, that we are going to see a considerable push on the part of industry to employ people at a younger age than has been true in the past and that we are going to see a considerable amount of pressure put on secondary programs to turn out people who are more technically qualified than has been the case in the past.

There will be a press as there has been in Japan to employ people directly out of the secondary school. In fact, they have turned to junior high schools as a major source of industrial employment simply because they do not have enough of a labor supply to allow longer education.

Mr. PETRI. Well, they retire at 55 too.

Dr. EVANS. That has been the traditional age of retirement in Japan, but it is going up there.

Dr. O'KELLEY. I would like to respond, Mr. Petri. I agree that there is a difference in the secondary and the postsecondary pro-

grams and the kind of personnel used, but a large proportion of the instructors at the postsecondary are part time.

Others are those that are drawn from industry because of the attraction of the job for the moment, and as soon as opportunities in industry return, they leave. Now, that creates a terrific turnover at the postsecondary. I think that I would say that to overcome this—and in two of the programs that I had, graduates can go directly into industry at more income than they can get from schools—agriculture, they don't get any, industrial arts, less than a third of our prospective teachers go into employment for this reason

But I think as you have personnel development programs that are effective, you build a commitment. You will find among old teachers a professional commitment to education. Mr. Kildee is proud of having been a teacher, even today. And you will find that where people are professionally prepared for their positions in the schools. They are proud of it, they remain even sometimes at a loss for themselves. So, I insist that personnel development is a key to maintaining your schools in these areas.

Mr. PETRI. I attended vocational school all day on Monday and took courses in cooking and being a chef in the morning, and in the afternoon on electronic maintenance just to become familiar with the programs. I thought the quality of the instructors and the general level of instruction was absolutely first-rate back in our State.

Well, we are going to run. I have no further questions, Mr. Chairman.

Mr. KILDEE. You have been excellent this morning. As you probably know, this is one of our most hectic weeks in the Congress. We are trying to make sure that Government doesn't close down again next Tuesday. I feel that your testimony will help a great deal in helping us reauthorize the Vocational Education Act.

I am wondering whether it would be possible to transmit some additional questions to you by mail and have you respond by mail? We will keep the record open and your answers will become part of the permanent record of this hearing.

Dr. WORTHINGTON. I would particularly like to respond to Mr. Petri's question, but I could do that through the mail.

Mr. KILDEE. If you could do that, we would appreciate it.

Thank you very much.

[Whereupon, at 11:01 a.m., December 9, 1981, the hearing was adjourned, subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

THE SECRETARY
WASHINGTON, D C 20202

FEB 4 1982

The Honorable Carl D. Perkins
Chairman, Subcommittee on Elementary,
Secondary, and Vocational Education
Committee on Education and Labor
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

We are pleased to respond to the additional Subcommittee questions resulting from the December 9 hearing on vocational education personnel development, as well as the two additional requests for information. The responses to these questions are as follows:

I. a. Why was the teacher shortage study required by Section 172(b)(7), P.L. 94-482 made only once? b. Was it used in granting fellowships in the year it was conducted? c. What problems did the Department encounter in collecting the data?

a. We believe you are referring to Section 172(c)(7) of Part B of the Vocational Education Act of 1963, as amended by Public Law 94-482. In connection with the awarding of teacher certification fellowships authorized by Section 172(c), that provision required the Commissioner (Secretary) to publish a listing of the areas of vocational education teaching in need of additional personnel and, to the maximum degree possible, award fellowships to individuals seeking to become teachers in the areas of shortage. As required, this study was conducted and the results published in the Federal Register on April 27, 1978 (43 F.R. 18112). In subsequent fiscal years, there were insufficient funds to make new teacher certification awards under Section 172(c). As a result, additional studies of vocational teacher shortages were not published in the Federal Register.

b. This information was published in time to implement the Fiscal Year 1978 award competition. Applicants were informed that awards would be made to individuals seeking certification in the published shortage areas. All 188 fellowship recipients for Fiscal Year 1978 did seek certification in one of those areas.

c. Problems encountered in collecting the data are addressed by the following questions: 1) Did or could the States gather such information? 2) Does a teacher shortage refer only to positions that are vacant at some point in time? 3) If no, should the data indicate past, present, or anticipated future shortages? 4) How can supply and demand formulas yield the information desired when the supply of teachers for such instructional areas as auto mechanics could be taken to mean all of those working in the area? 5) How can shortage data be reconciled from State to State when some States report by generic area (Trades and Industry) and some by instructional areas? 6) How accurate is the information collected by the State? and 7)

Can there be guards against the possibility of shortage reporting on a survey when it is known fellowship awards are dependent upon there being a shortage? The problems would also be present in any future survey.

2. a. Does the Department have other statistics on the vocational education teacher supply and demand, either nationally or for selected States? b. Is the demand expected to rise at both the secondary and postsecondary level? c. In which vocational areas are there the most serious shortages?

a. Using data from the Vocational Education Data System, the National Center for Educational Statistics (NCES) reported (The Condition of Vocational Education, July, 1981) a fifty percent increase in vocational education teachers by State between 1972 and 1978, from 236,000 to 354,000. During that period the number of secondary teachers increased forty percent, the number of postsecondary teachers 43 percent, and the number of adult vocational teachers 85 percent. The report does not deal with projections or demand for vocational teachers. In this report, NCES found 47 percent of all vocational teachers were teaching at the secondary level, 21 percent teaching at the postsecondary level, and 32 percent teaching adults. It should be noted that the numbers of teachers at the latter two levels are probably much greater because many of the teachers are part-time. Over 16,000 of the approximately 28,000 identified providers of vocational education were secondary schools, and two thirds of the enrollment in Federal supported vocational education programs were also in secondary schools.

In January 1980, the National Center for Research in Vocational Education published a study: PROJECTIONS OF DEMAND FOR VOCATIONAL TEACHERS, 1978-1982 (Lloyd V. Temme and William Zeigler, Jr.). This was a follow-up of a more extensive study done in August of 1979. Both studies used estimated and projected enrollments from the approved State Plans for Vocational Education as the basis for a formula which defined teacher demand as enrollment divided by an estimated student-teacher ratio, enrollment changes, and an estimated attrition rate of current teachers. The 1979 study attempted to determine the most critical shortages by State and by instructional areas (6-digit codes). All States showed critical shortages in some areas although at least five States did not show an overall aggregate shortage and approximately fifteen States came very close to not having an overall shortage. In comparing the estimated State Plan enrollments to the actual VEDS reports, serious over estimates were recognized in the State plan enrollments. If so, the NCRVE report would have over estimated demand for faculty. In addition, the formula approach to estimating teacher shortages employed by Temme and Ziegler is subject to criticism because they lacked real, hard data on either student-teacher ratios (aggregately or by instructional areas) or on teacher attrition rates by State or by instructional areas. For these reasons, we do not believe either report can be utilized except as an indication that there probably are critical shortages. In February of 1980, ED contracted with Virginia Polytechnic Institute and State University (Dr. William Dugger, Project Director) to conduct a survey. The survey showed that there were 15,315 secondary schools in 44 States operating industrial arts programs. The survey also showed that there were 55,953 industrial arts teachers employed in these schools. Their Survey Report, a product of the Standards for Industrial Arts Education Programs Project, went on to state

that: "A major problem which persists in industrial arts is the number of unfilled teaching positions throughout the country. In 1978-79 State supervisors reported 1,077 vacancies in industrial arts." The complete report is available from the University or through the ERIC system.

A 1981 Illinois State Board of Education report (copy enclosed) discusses a number of studies of industrial education teacher supply and demand. Industrial education would include both trades and industry and industrial arts. The report mentions that in a study of all States except Georgia and New Mexico it was found that: 1) Virginia could not open 27 programs at the secondary level due to a shortage of teachers 2) North Carolina had nearly 500 vacant positions in these fields. Another reported study of 61 districts in Illinois showed that fifty percent of the first or second year teachers left the field. Once the position became vacant, there was a 25 percent chance that it would remain vacant for the balance of the year and a 33 percent chance that it would be filled by a temporary or provisionally certified teacher.

b. We assume, because of demographic and enrollment trends of the population of the United States, the demand for vocational teachers will increase most significantly at the postsecondary and adult levels. We also assume that a large share of this increase of demand will be for part-time teachers.

c. As described in paragraph 2a, the Department does not have statistically valid information on specific shortages of teachers. However, with the increasing emphasis on technology in both industry and in the military, it would seem that State and local staff concerned with areas of trades and industry, technical education, agri-business, and health occupations should plan to address a growing and possibly critical need for highly qualified teachers.

3. Is it true that there is a greater need for retraining and upgrading of the specialized skills on the postsecondary level, as compared to the secondary level?

The need at the postsecondary level for upgrading may be greater for teaching skills than for specialized skills. Many part-time community college teachers work at their skill full-time and presumably keep their skills up-to-date. Full-time teachers who have not worked in their field for two or three years would certainly be in critical need of updating their skills. The postsecondary concern, however, should also extend to include the teacher educators at the four-year colleges and universities. Observations and discussions with the field indicate that retraining and updating vocational teacher educators is an urgent need if we are to assure high quality and effective preservice and inservice training of vocational teachers designed to improve vocational education on a continuing and systematic basis.

Educational Innovators, Inc., under contract with the U.S. Department of Education, conducted a random sample of vocational teachers and a universe sample of vocational teacher educators in the Spring of 1981 to identify their perceived present levels of competency and knowledge in working with the handicapped versus their desired levels of competency

and knowledge in working with the same group. The gap between the present level and the desired level mean needs ranged from 140 percent to 160 percent. This would certainly indicate a critical need for training and retraining nationally. The contractor, however, has recommended that States utilize the approved survey instruments to ascertain their own personnel development needs for planning appropriate preservice and inservice training needs.

The subcommittee also requested the written response to two additional questions on vocational education not related to personnel development.

1. What is the Department's position on the Management Evaluation Reviews for Compliance/Quality MERC/Q process and its replacement with a system that focuses on self-assessment and technical assistance?

   The Education Department is in the process of generally re-examining its key responsibilities and functions in order to assure consistency with the administration's philosophy. This, along with reduced salaries and expense budgets, has necessitated an internal assessment of our current implementation of Section 112(a)(2) of the Vocational Education Act, to analyze the strengths and weaknesses of vocational education programs in at least ten States each fiscal year.

   This internal assessment is resulting in some modifications to the MERC/Q process. The modified system, tentatively called the Management Assistance Program (MAP), will continue to review the States much as before, but using a different and less costly approach. As now planned, the MAP will be comprehensive analysis of all aspects of the States vocational education delivery system. The vehicle for this analysis will be an instrument which determines State accomplishments in previously identified problem areas (i.e., specific legal requirements), general functional areas (e.g., planning evaluation, fiscal management), and in connection with unique State issues. The initial step in conducting the review and technical assistance activity will be the States completion of a self-assessment instrument designed by the Department. An on-site review team from the Department will then review the findings of the State in the development of recommendations. I believe this process is fully in accord with the requirements of the Vocational Education Act.

   On January 20-22, the Office of Vocational and Adult Education conducted meetings with State Directors of Vocational Education to gather their views on the proposed MAP process. Their comments are being incorporated into a design of the system to be pilot-tested in April and May, 1982. Upon its completion, I have asked Dr. Worthington to share with you a status report of the new MAP procedures.

2. What is the rationale and time line for revising the existing Vocational Education Act regulations to reduce paperwork and compliance burdens?

   The regulations are being revised in accordance with the President's Executive Order 12291, the overall purpose of which is to reduce regulatory burden in a manner that is consistent with the requirements of program statutes. We expect to publish the proposed rules for public comment near the end of February.

If I can provide any additional information that the Subcommittee might need please let me know.

Sincerely,

T. H. Bell

COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DIVISION OF ADMINISTRATIVE AND EDUCATIONAL SERVICES

December 21, 1981

Nancy Kober
B346C Rayburn Building
House Sub-Committee on Elementary,
Secondary, & Vocational Education
Rayburn House Office Building
Washington, DC 20515

Dear Nancy:

Thank you for affording me the opportunity to send to you for inclusion in the record written testimony regarding reauthorization legislation for vocational education. Specifically, this testimony focuses on personnel development and is a compilation of concerns, comments, opinions, and research from the vocational education faculty at Virginia Tech.

The goals that are proposed for vocational education are impressive and if accomplished will make a significant economic and social impact on many young lives and careers. As we strive to reach these goals, we must remember that teachers will play a significant role. Without teachers little if any learning can occur. Contrary to popular opinion, there is a shortage of vocational education teachers. As documentation I am enclosing a copy of a National Longitudinal Study showing a shortage of vocational-agriculture education teachers. While a similar study is not available for each vocational program area, this is evidence that shortages do exist.

For the past several years, improvement of local programs of vocational education seems to have been a major part of federal legislation. While these efforts were and continue to be important, it appears that preparation of teachers, both pre-service and in-service has not received similar attention and priority. Facilities, equipment, and instructional materials are of little value without competent well qualified teachers.

Preparation of vocational education teachers may be caught in a whip saw situation. Because of the false impression that there is an oversupply of teachers in general, and adverse publicity about working conditions in the public schools, colleges of education in many universities and colleges

are experiencing a decline in both undergraduate and graduate enrollments. This decline results in a loss of state and university support. At the same time, support from federal dollars and reimbursement from state departments of vocational education is decreasing. There is no mechanism within most university budgets to make up this loss of reimbursed dollars. Hence, we have seen the demise of vocational education teacher preparation programs of the University of Michigan and other colleges and universities elsewhere. This is ironic since it can be shown there is a shortage of vocational education teachers. The major concern is that more vocational teacher preparation programs will close for lack of adequate funding. Another unfortunate consequence of this lack of support is the loss of in-service education for the employed teachers at the local level.

Loss of in-service is devistating to vocational education teachers. As the complexity technology increases, the vocational teacher must keep up with new innovations and technical developments. For example, in trade and industrial education in many states, the trade and industries teacher comes directly from the job to the laboratory, shop, or classroom. Teaching skills must be provided to these teachers through in-service education. They learn to teach while on the job. Teacher educators are best equipped to provide these new teachers pedogogical skills.

Attached is an excerpt from a National Standards Project for Industrial Arts Teachers. This section of the study focuses on vacant industrial arts positions for 1976-1980. This is recent and valid data that indicates there is a shortage of industrial arts teachers.

A survey of marketing education teacher preparation programs in Virginia suggest that each year some 40% of the marketing education graduates fail to enter teaching. This situation forces local administrators to close marketing education programs or to employ teachers without strong pre-service preparation.

It would seem helpful if the reauthorizing legislation would require each state to show in its annual state plan how they will meet their personnel development needs. It would also be helpful if the legislation could require that teacher educators be a mandated part of the planning process or planning team. This would permit teacher educators, university finance persons and others to know in advance what priority will be given to teacher education and personnel development.

I hope you find these comments helpful. If you need additional clarification or have other questions please call me collect at (703) 961-4725 or Dr. Nevin Frantz, Division Direcotr, Division of Vocational Education at (703) 961-6384.

Sincerely yours,

Samuel D. Morgan
Associate Professor

SDM:tah

FINDINGS

VACANT INDUSTRIAL ARTS POSITIONS, 1976-1980

Table 1 represents the supervisors' responses on the question concerning the number of vacant industrial arts positions in their state or territory. The number of vacancies is reported for a four- year span (1976-77 through 1979-80 school years). Figures for the first three school years were reported previously by the Standards Project in 1979. Supervisors' data for the 1979-80 school year are found in the far right column of Table 1. The table indicates that there were at least 1,178 vacant industrial arts teaching positions in 43 states in 1979-80 (five states reported no vacancies), as compared to 1,077 vacancies in 44 states (nine states reported no vacancies), as reported in 1978-79. The states of Texas (300), California (124), and Illinois (100) reported the greatest number of vacancies. Texas also reported the highest number of vacancies during the other three-year periods. Wisconsin which only reported 10 vacancies for 1977-79 reported 90 vacancies for the 1979-80 school year. Indiana, which reported a large number of vacancies in the previous three school years, showed a decline, only eight positions went unfilled in Indiana in the 1979-80 school year. The number of vacant positions fluctuated in several states, but overall the number of vacancies increased slightly. In the period from 1978-79 to 1979-80, for example, 14 states reported vacancy declines, but 19 reported vacancy increases.

EMPLOYED INDUSTRIAL ARTS TEACHERS BY CERTIFICATION LEVEL, 1978-79

Table 2 shows the number of teachers employed by level of certification in the states or territories. Several supervisors who were asked a similar question in 1979, indicate the actual number of fully certified, emergency or temporary certified and non-certified male and female industrial arts teachers employed for a three year period, commented that they could not provide this information for all categories requested. However, they did indicate that data could be provided on the number of fully certified and/or non-certified teachers. Therefore, the part of this question that dealt with emergency or temporary

TABLE 1

VACANT INDUSTRIAL ARTS POSITIONS, 1976-1980

STATE (Total Number)	NUMBER OF VACANCIES 76-77 (n=40)	77-78 (n=41)	78-79 (n=44)	79-80 (n=43)
ALABAMA	0	0	0	0
ALASKA	-	-	-	-
ARIZONA	10	8	11	-
ARKANSAS	3	5	1	6
CALIFORNIA	84	61	65	124
COLORADO	0	0	0	-
CONNECTICUT	-	-	6	35
DELAWARE	0	1	1	0
DIST OF COL	5	3	8	36
FLORIDA	0	10	25	25
GEORGIA	40	30	40	35
GUAM	-	-	-	-
HAWAII	-	1	0	1
IDAHO	0	0	0	0
ILLINOIS	-	-	110	100
INDIANA	89	75	80	8
IOWA	16	22	29	39
KANSAS	-	-	-	-
KENTUCKY	6	4	0	4
LOUISIANA	35	50	75	50
MAINE	-	-	-	14
MARYLAND	14	17	20	5
MASSACHUSETTS	-	-	-	-
MICHIGAN	-	-	-	-
MINNESOTA	0	0	5	5
MISSISSIPPI	10	12	14	8
MISSOURI	42	47	55	23
MONTANA	2	2	3	2
NEBRASKA	4	6	13	26
NEVADA	0	0	0	-
NEW HAMPSHIRE	-	-	-	2
NEW JERSEY	0	0	0	35
NEW MEXICO	5	6	6	7
NEW YORK	60	50	40	-
NORTH CAROLINA	12	16	19	-
NORTH DAKOTA	4	6	6	10
OHIO	0	15	28	60
OKLAHOMA	5	8	10	10
OREGON	5	8	3	5
PENNSYLVANIA	50	40	30	45
PUERTO RICO	9	8	11	0
RHODE ISLAND	-	-	-	-
SOUTH CAROLINA	-	-	-	-
SOUTH DAKOTA	-	-	-	22
TENNESSEE	10	12	6	6
TEXAS	265	270	290	300
UTAH	0	0	0	1
VERMONT	0	0	0	0
VIRGIN ISLANDS	12	10	8	1
VIRGINIA	12	20	24	15
WASHINGTON	0	0	0	2
WEST VIRGINIA	-	-	18	20
WISCONSIN	0	10	10	90
WYOMING	3	5	7	3
TOTALS	812	838	1077	1178

certification was dropped from this survey. Forty-seven states reported employing at least 61,687 industrial arts teachers in 1978-79. There were at least 31,225 males and 373 females employed. These two figures do not equal the total employment because several states only reported total amounts and could not provide gender distribution. Thirty-four supervisors reported 29,417 male and 338 female, fully certified industrial arts teachers employed in their state and territory. Five of those states reporting indicated no fully certified female industrial arts teachers employed in the state. In the category of Non-Certified industrial arts teachers, 41 supervisors reported a total of 999 males and females employed in their states; 346 males and 9 females were reported. Fifteen states reported no non-certified teachers employed, and 11 supervisors did not respond to this category.

PERSONS EARNING BACHELOR'S WITH CERTIFICATION IN INDUSTRIAL ARTS TEACHING

Question 3 of the survey instrument asked supervisors to indicate by sex the number of persons earning bachelor's degrees with certification in industrial arts teaching in their state or territory during 1978-79. Of the 45 supervisors who responded, (see Table 3) 3,165 persons were reported earning bachelor's degrees in industrial arts two supervisors (Washington DC and the Virgin Islands) reported no graduates earning bachelor's degrees in industrial arts. Thirty-seven supervisors reported 2,250 males, and 38 supervisors reported 124 females, earning bachelor's degrees with teaching certification in industrial arts. Ten supervisors indicated no females earning bachelor's degrees in industrial arts, and 9 supervisors did not provide the data.

INDUSTRIAL ARTS ENROLLMENT BY SEX, 1978-79

State supervisors were asked to report enrollments by grade level and by sex (see Question 4, Appendix A). Only a small number of supervisors was able to provide data by grade level breakdown. These data are located in Appendix B. This question, with recommended changes, was asked by the Standards Project in 1979 and elicited little useful data at that time. However, the number of supervisors (37) who

TABLE 2

EMPLOYED IA TEACHERS BY CERTIFICATION LEVEL, 1978-79

STATE (Total Number)	CERTIFIED M (34)	CERTIFIED F (34)	CERTIFIED TOT (45)	NON-CERTIFIED M (33)	NON-CERTIFIED F (34)	NON-CERTIFIED TOT (43)	TOTAL M (36)	TOTAL F (35)	TOTAL TOT (47)
ALABAMA	167	6	173	0	0	0	167	6	173
ALASKA	-	-	-	-	-	-	-	-	-
ARIZONA	-	-	-	-	-	-	-	-	-
ARKANSAS	190	0	190	0	0	0	190	0	190
CALIFORNIA	-	-	8163	-	-	215	-	-	8378
COLORADO	-	-	4000	-	-	-	-	-	4000
CONNECTICUT	1345	28	1373	4	0	4	1349	28	1377
DELAWARE	190	0	190	0	0	0	190	0	190
DIST OF COL	69	2	71	0	0	0	69	2	71
FLORIDA	1254	15	1269	38	1	39	1292	16	1308
GEORGIA	-	-	-	-	-	-	576	9	585
GUAM	-	-	-	-	-	-	-	-	-
HAWAII	222	1	223	2	1	3	224	2	226
IDAHO	225	0	225	12	0	12	237	0	237
ILLINOIS	-	-	4723	-	-	220	-	-	4943
INDIANA	2197	3	2200	-	-	0	2197	3	2200
IOWA	1100	39	1139	-	-	30	-	-	1169
KANSAS	-	-	-	-	-	-	-	-	-
KENTUCKY	453	2	455	1	0	1	454	2	456
LOUISIANA	550	10	560	40	3	43	590	13	603
MAINE	440	12	452	12	0	12	452	12	464
MARYLAND	-	-	-	-	-	-	913	17	930
MASSACHUSETTS	-	-	2000	-	-	0	-	-	2000
MICHIGAN	3214	26	3240	-	-	-	3214	26	3240
MINNESOTA	-	-	1595	0	0	0	0	0	1595
MISSISSIPPI	269	0	269	5	0	5	274	0	274
MISSOURI	-	-	1266	-	-	0	-	-	1266
MONTANA	271	2	273	6	0	6	277	2	279
NEBRASKA	-	-	828	-	-	17	-	-	845
NEVADA	-	-	-	-	-	-	-	-	-
NEW HAMPSHIRE	342	3	345	5	0	5	347	3	350
NEW JERSEY	2675	25	2700	52	0	52	2727	25	2752
NEW MEXICO	303	0	303	2	0	2	305	0	305
NEW YORK	4100	83	4183	-	-	41	-	-	4224
NORTH CAROLINA	303	11	314	11	1	12	314	12	326
NORTH DAKOTA	188	1	189	0	0	0	188	1	189
OHIO	2785	12	2797	40	0	40	2825	12	2837
OKLAHOMA	664	14	678	0	0	0	664	14	678
OREGON	795	5	800	0	0	0	795	5	800
PENNSYLVANIA	-	-	3372	27	0	27	-	-	3399
PUERTO RICO	542	3	545	14	0	14	556	3	559
RHODE ISLAND	-	-	-	-	-	-	-	-	-
SOUTH CAROLINA	-	-	-	-	-	-	-	-	-
SOUTH DAKOTA	188	4	192	6	0	6	194	4	198
TENNESSEE	383	7	390	44	1	45	427	8	435
TEXAS	-	-	2180	-	-	22	-	-	2200
UTAH	432	1	433	4	0	4	436	1	437
VERMONT	198	1	199	0	0	0	198	1	199
VIRGIN ISLANDS	17	1	18	7	2	9	24	3	27
VIRGINIA	-	-	990	-	-	99	-	-	1089
WASHINGTON	1297	5	1302	0	0	0	1297	5	1302
WEST VIRGINIA	-	-	301	0	0	0	-	-	301
WISCONSIN	1829	14	1843	14	0	14	1843	14	1857
WYOMING	220	2	222	0	0	0	220	2	222
TOTAL	29417	338	59173	346	9	999	31225	373	61687

TABLE 3

BACHELOR'S DEGREES AWARDED IN INDUSTRIAL ARTS WITH TEACHING CERTIFICATION, BY SEX, 1979-80

STATE Total Number	MALE (n=37)	FEMALE (n=38)	TOTAL (n=45)
ALABAMA	28	2	30
ALASKA	-	-	-
ARIZONA	-	-	-
ARKANSAS	25	1	26
CALIFORNIA	78	13	91
COLORADO	-	-	-
CONNECTICUT	42	6	48
DELAWARE	8	0	8
DIST OF COL	0	0	0
FLORIDA	71	2	73
GEORGIA	27	2	29
GUAM	-	-	-
HAWAII	7	2	9
IDAHO	14	0	14
ILLINOIS	134	22	156
INDIANA	45	3	48
IOWA	-	-	102
KANSAS	-	-	-
KENTUCKY	70	5	75
LOUISIANA	40	3	43
MAINE	25	3	28
MARYLAND	38	3	41
MASSACHOSETTS	-	-	140
MICHIGAN	-	-	83
MINNESOTA	-	-	104
MISSISSIPPI	35	2	37
MISSOURI	89	6	95
MONTANA	37	2	39
NEBRASKA	48	0	48
NEVADA	-	-	-
NEW HAMPSHIRE	26	0	26
NEW JERSEY	59	7	66
NEW MEXICO	33	0	33
NEW YORK	-	-	-
NORTH CAROLINA	84	17	101
NORTH DAKOTA	15	1	16
OHIO	154	4	158
OKLAHOMA	83	2	85
OREGON	29	1	29
PENNSYLVANIA	-	-	120
PUERTO RICO	371	3	374
RHODE ISLAND	-	-	-
SOUTH CAROLINA	-	-	-
SOUTH DAKOTA	28	1	29
TENNESSEE	45	2	47
TEXAS	-	-	206
UTAH	58	1	59
VERMONT	6	0	6
VIRGIN ISLANDS	0	0	0
VIRGINIA	59	3	62
WASHINGTON	-	5	5
WEST VIRGINIA	-	-	36
WISCONSIN	325	0	325
WYOMING	15	0	15
TOTALS	2250	124	3165

reported total enrollments doubled in this survey as compared to the number of supervisors (17) who reported data for 1977-78.

As shown in Table 4, 37 state supervisors (68%) who could provide the required data, reported a total of 4,132,002 students enrolled in industrial arts courses for 1978-79; 2,011,364 males, and 528,000 females were reported. Seventeen states did not provide these figures, and only 21 supervisors provided gender distributions.

IA ENROLLMENTS IN VOCATIONALLY APPROVED AND VOCATIONALLY FUNDED COURSES BY SEX, 1978-79

State or territorial industrial arts supervisors were asked to report total student enrollments in vocationally approved and vocationally funded (local/state/federal) industrial arts courses for each grade level during 1978-79. If grade level breakdown by sex was not available, supervisors were asked to give total enrollment figures. Because of limited grade level information, these figures are not discussed here, but are reported in Appendix C. Forty-two of the supervisors who could provide data (see Table 5), reported 794,185 enrolled students; 15 supervisors reported no students enrolled; 12 supervisors could not supply the data. Only 22 of the responding supervisors reported enrollments by gender.

HANDICAPPED AND DISADVANTAGED STUDENTS IN INDUSTRIAL ARTS COURSES, 1978-79

Table 6 shows the number of handicapped and disadvantaged students enrolled in industrial arts courses as reported by state or territorial supervisors. Many supervisors stated that these data were unavailable at the time of the survey. Eighteen supervisors reported 24,744 handicapped students, which represents less than one percent (.6%) of all industrial arts students served; one supervisor reported no handicapped students. Eighteen state and territorial supervisors reported 160,199 disadvantaged students enrolled in industrial arts courses for 1978-79, which represents approximately 3.9 percent of all students served.

A National Study of the Supply and Demand for Teachers of Vocational Agriculture in 1979 (By David G. Craig, College of Education, the University of Tennessee, Knoxville)

FEBRUARY 1980

FOREWORD

Demand and supply data about vocational agriculture teachers on a state and national basis can be useful in recruitment and public relations efforts. This is the major premise for the study which has been conducted annually for fifteen consecutive years. This study provides objective data from every state that can be used by agricultural education leaders to identify and compare teacher trends in the vocational agriculture profession. Also, it can provide information for planning and evaluating programs. A fifteen year summary study will be published nationally this year.

In terms of actual use, this study has done much to stimulate recruitment efforts nationally and in states where teacher shortages occur. Teacher education institutions and state departments of education have used the data to aid in their planning and expansion of agricultural education programs. In addition, the data has been used to assist in modifying certification standards. Information from the study has also been used by the National Vocational Agricultural Teachers Association in a careers booth at the National FFA Convention. This report is distributed to every state education department and agricultural teacher education institution, and to selected agricultural education leaders in the United States. Summary reports appear periodically in the Agricultural Education Magazine and the Agriculture Teachers-Directory and Handbook. Agricultural business and industry newsletters and magazines include some of the data in news columns and articles. Each year the author receives many favorable comments about the study and requests for information.

Verbal support for this study and its distribution is provided by the Professional Personnel Recruitment Committee of the Agricultural Education Division, American Vocational Association. The Department of Vocational-Technical Education at The University of Tennessee provided monetary support this year. During the annual American Vocational Association meeting in December, the Committee receives a progress report of the current study, reviews last year's report, and makes recommendations for improving further study efforts. A request has been made for financial support to the Ag-Ed Division for the 1980 study. Responsible suggestions are welcome from any reader.

The author wishes to thank the Department of Vocational-Technical Education for its support of the study this year. A special acknowledgement is made to Mrs. Elizabeth Lane, secretary to the agricultural education staff at The University of Tennessee, Knoxville. She has aided in the conduct of this study for six years.

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SUPPLY AND DEMAND FOR TEACHERS OF VOCATIONAL AGRICULTURE IN THE UNITED STATES, 1979

INTRODUCTION

The much publicized oversupply of teachers in education is only a partial truth. The field of vocational agriculture education has had a shortage of teachers for many years. This report proposes to describe the nature and degree of the supply and demand of vocational agriculture teachers in 1979. In addition, changes and trends will be identified which have occurred since 1965 when the study began. The findings of this fifteenth annual survey of the supply and demand for teachers of vocational agriculture will be used to stimulate and aid state and nationwide recruitment efforts to secure prospective teachers for the profession.

GATHERING THE DATA

The data on teacher supply and demand were secured from all known institutions preparing teachers in vocational agriculture as well as the offices of head state supervisors in agriculture. Questionnaires were mailed to both groups on September 1, 1979. Follow-up letters and telephone calls were made for five months. A return of nearly 100 percent was received from both groups of respondents.

The respondents were asked to provide information regarding numbers of graduates qualified and the number of teaching positions available. Responses have been tabulated for each state and each institution preparing teachers. A copy of each of the questionnaires used in the study is included in the Appendix.

SUMMARY AND RECOMMENDATIONS

The summary and recommendations regarding the development of a more adequate supply of teachers is included at this point for the convenience of those readers who do not wish to read the entire study. The following represents a brief review of selected results, conclusions and recommendations.

A total of 1656 persons were qualified for teaching vocational agriculture in 1979 as compared to 1,038 in 1965. Although the number qualified is the second largest in the history of this study, the percentage of individuals placed in vocational agriculture teaching dropped to 54.9 percent in 1979. A turnover of 11.1 percent also contributed to the teacher shortage. The percent of teacher turnover has ranged from nine to twelve percent for each of the past fifteen years.

A comparison of the number of teachers of vocational agriculture in the nation over the past decade shows that the number has increased from a low of 10,221 in 1967 to a record high of 12,844 in 1978. There were 12,772 teachers identified in 1979. In addition, the number of vocational agriculture teachers in technical institutions

and community colleges continues to increase each year with a total of 1,599 positions in 1979.

Several trends continue to appear in types of vocational agriculture teaching positions. About 85 percent of all positions occurred in general or comprehensive high schools, while approximately 12 percent were employed in area vocational high schools. Slightly more than one-half, or 51.3 percent, of the positions involved teaching only high school students. The number of teachers in single teacher departments represented about 50 percent of the total, a figure which has stablized in recent years.

About 468 more teachers than in 1978 were teaching in production agriculture programs while 162 more teachers were in specialized areas such as Agricultural Business and Supply, Ornamental Horticulture and Agricultural Mechanics.

Most teaching positions were filled by fully qualified persons holding a bachelor's degree. The number of positions filled by teachers with temporary or emergency certificates increased by about 18 percent last year to 499 in 1979.

RECOMMENDATIONS:

The Professional Personnel Recruitment Committee has recommended that approximately 2,000 persons per year be qualified for teaching vocational agriculture in the nation. It would appear that this goal is realistic, as evidence is submitted to indicate program growth in terms of new positions. In view of this goal, the following recommendations are made:

1. Vocational agriculture teachers should recruit their best students each year for teaching vocational agriculture. Each teacher should have as his/her goal that at least one of his/her students graduate in agricultural education every two to three years.
2. Teacher turnover should be reduced and maintained at a low percentage level. Local administrators, state supervisors in agricultural education and professional organizations should provide a variety of incentives to encourage all effective teachers of quality programs to remain in the profession.
3. State supervisors and teacher educators in surplus states should encourage current agricultural education graduates to cross state lines to areas where shortages exist. Continued efforts need to be made to make teacher salaries competitive with other fields in which they might enter.
4. State vocational agriculture teacher associations should exercise leadership in forming and/or maintaining an active recruiting campaign. Emphasis should be placed upon the variety of job opportunities, especially specialized subject areas, locations of jobs, and the advantages of teaching as a profession (for example, the importance of agriculture and working with youth). Recruitment efforts should focus on state, district and local FFA officers and award winners. Colleges of agriculture and departments of agricultural could offer additional scholarships to potential majors in agricultural education.
5. Agricultural education leaders at the state level should make

strong efforts to reduce the number of uncertified teachers in the profession. Continued steps need to be taken to broaden certification standards to include such areas as horticulture, agricultural business and agricultural mechanics. Names and addresses of available and certified teachers need to be placed in the hands of employing superintendents and boards of education.

6. Previous recommendations for further research about vocational agriculture teacher supply and demand have been followed. Studies have been completed and published as follows: "A Synthesis of Current Research About Vocational Agriculture Teacher Supply and Demand" and "Why Do Vocational Agriculture Teachers Leave (or Stay in) the Profession."

7. This longitudinal study of the supply and demand for teachers of vocational agriculture should be continued in 1980. Proposals for funds have been submitted to the Agricultural Education Division of the American Vocational Association for this study and recruitment activities.

MAJOR FINDINGS

The demand for teachers of vocational agriculture is shown in Table I. A turnover of 11.1 percent required 1,641 teacher replacements for the 12,772 positions in 1979. This table shows that there is still a teacher shortage in that 144 teachers were needed but not available September 1, and that 45 departments could not operate during the 1979-80 school year because of a lack of teachers.

TABLE I

NUMBER OF TEACHING POSITIONS IN VOCATIONAL AGRICULTURE IN THE UNITED STATES IN 1979

Item	Number
1. Total positions as of 6/30/79	12,772*a
2. New graduates entering teaching during the 1978-79 school year	909b
3. New positions added during 1978-79 school year (net total)	-8c
4. Number of newly qualified teachers still available 9/1/79	41d
5. Teachers needed but unavailable 9/1/79	144e
6. Teachers with temporary or emergency certificates	499f
7. Departments which will not operate in 1979-80 because of the teacher shortage	45g

*Does not include 1,599 positions in technical institutions and community colleges (an increase of 92 from last year, up 90 from 1977).

a A decrease of 72 from last year; a 78 increase from 1977.
b A decrease of 106 from the 1978 figure; a decrease of 154 from 1977.
c A decrease of 164 from last year; a decrease of 313 from 1977.
d An increase of 2 from the 1978 figure; down 17 from 1977.
e A decrease of 45 from 1978; down 77 from 1977.
f A decrease of 12 from last year; a decrease of 68 from 1977.
g A decrease of 55 from last year; down 45 from 1977.

Agricultural Education Graduates

It is evident from Table II that a total of 1656 teachers were qualified by institutions last year and of these, 909, or 54.9 percent, accepted teaching positions in vocational agriculture. The table also shows the ten-year trends of the number of teachers qualified and the percent entering various occupational areas.

TABLE II

PERCENTAGES OF AGRICULTURAL EDUCATION GRADUATES ENTERING VARIOUS OCCUPATIONS

Occupation	'1970	'1971	'1972	'1973	'1974	'1975	'1976	'1977	'1978	'1979
Total Number Qualified	1700	1743	1759	1713	1623	1660	1697	1749	1791	1656
Total Number Placed in Vo-Ag	866	864	964	966	943	999	1043	1063	1015	909
Teaching Vo-Ag	51.0	49.6	54.8	56.3	58.1	60.2	61.5	60.8	56.7	54.9
Ag Business	4.1	5.1	6.3	6.8	7.8	7.5	6.3	7.4	9.3	14.9
Graduate Work	9.0	9.1	7.9	7.6	8.9	9.8	8.8	6.3	9.1	9.1
Farming	4.9	7.1	7.7	9.3	9.2	8.2	8.2	8.2	7.3	7.9
Other Work	11.0	11.0	11.0	13.7	10.8	9.4	11.0	13.7	13.8	7.5
Unemployed	_____ (no data 1965-78) _____									2.5
Other Teaching	7.3	6.1	6.6	4.1	4.1	3.3	2.5	1.8	2.8	2.1
Armed Forces	12.7	12.0	5.0	2.2	1.1	1.1	1.7	1.8	1.0	1.1

Enrollments in Agricultural Colleges

There should be a close relationship between the number of agricultural teachers qualified and the number of persons enrolled in agricultural colleges. Table III shows a more rapid increase in agricultural college enrollments over this fifteen-year period than the number qualified to teach. More specifically, as the number of persons qualified to teach has stabilized somewhat in the past ten years, the agricultural college enrollments have almost doubled.

TABLE III

ENROLLMENT IN COLLEGES OF AGRICULTURE COMPARED WITH NUMBERS QUALIFIED IN AGRICULTURAL EDUCATION 1959-1979

Academic Year	Enrollment in Agriculture	Percent Based on 1959-60	Number Qualified in Agricultural Education	Percent Based on 1959-60
1959-60	33,968	100%	1,324	100%
1964-65	39,623	116.6	1,110	83.8
1968-69	52,623	115.8	1,566	118.3
1969-70	57,517	169.3	1,700	128.4
1970-71	62,863	185.0	1,743	131.6
1971-72	66,057	194.4	1,759	132.9
1972-73	66,752	196.5	1,713	129.4
1973-74	77,516	228.2	1,623	122.6
1974-75	88,992	262.0	1,660	125.4
1975-76	97,941	288.3	1,697	128.2
1976-77	103,382	304.4	1,749	132.1
1977-78	101,440	298.6	1,791	135.3
1978-79	103,793	305.6	1.656	125.1

A Fifteen-Year Comparison of Teacher Supply

A fifteen-year comparison of the number of positions in teaching vocational agriculture in Table IV shows an upward trend since 1971. The highest number of teaching positions occurred in 1978 when there

were 12,844.

During the last seven years there has been an average need per year for more than 220 teachers that were not available. Also during the last seven years, 1979 showed the lowest percent of qualified persons entering vo-ag teaching.

TABLE IV

A FIFTEEN-YEAR COMPARISON OF SELECTED INFORMATION ON THE SUPPLY OF TEACHERS OF VOCATIONAL AGRICULTURE

Year	Total No. of Positions	Teachers Needed But Not Available September 1	Total Qualified for Teaching	Percent Qualified Entering Vo-Ag Teaching
1965	10,378	120	1,038	64.6
1966	10,325	162	1,151	61.4
1967	10,221	232	1,233	60.2
1968	10,606	141	1,314	61.6
1969	10,560	121	1,566	56.9
1970	10,520	171	1,700	51.0
1971	10,438	120	1,743	49.6
1972	10,716	134	1,759	54.8
1973	11,141*	276	1,713	56.3
1974	11,578*	292	1,623	58.1
1975	12,107*	211	1,660	60.2
1976	12,486*	211	1,697	61.5
1977	12,694*	221	1,749	60.8
1978	12,844*	189	1,791	56.7
1979	12,772*	144	1,656	54.9

*The figures for 1973 to 1979 do not include teachers of agricultural technicians in technical institutes, community colleges, and similar institutions.

Changes in Curriculum and Clientele

Changes in vocational agriculture teaching positions are shown in Table V. This table shows that only 409, or 3.2 percent, of the teachers taught classes in junior high school, while 51.3 percent taught only high school classes; 41.9 percent of the teachers taught both high school classes and classes for adult and young farmers. The number teaching full-time adult and young farmer classes has dropped more than ten percent from 1978.

As to the kind of schools, 85.6 percent of the vocational agriculture positions were located in comprehensive or general high schools, while about 12 percent occurred in area vocational high schools. The number of teachers located in single teacher departments has fluctuated between 48 and 52 percent in recent years. The percent increased to 50.2 in 1979. Hence, the number of multiple teacher departments decreased to 49.8 percent.

Curricular offerings in agriculture are showing a slight trend toward specialization. Less than one-half of the teachers are located in programs of part-time production agriculture and specialized areas. The number of teachers with full-time responsibility in specialized programs has increased to 18.3 percent. The percentage of teachers in full-time production agriculture has increased to 39 percent of the total positions.

TABLE V

TYPES OF TEACHING POSITIONS IN VOCATIONAL AGRICULTURE IN 1978 AND IN 1979

Type of Position	Number 1978	Number 1979	Percent 1979
By Kind of Students			
Teachers of junior high school classes only	330	409	3.2
Teachers of high school classes only	6274	6584	51.3
Teachers of both high school and out-of-school classes (adult and/or young farmer classes)	5620	5384	41.9
Teachers of adult and young farmer classes only	522	458	3.6
By Kind of School			
Teachers in general or comprehensive high schools	11,148	10,848	85.6
Teachers in area vocational high schools	1,580	1,554	12.3
Teachers in vocational high schools	109	269	2.1
By Size of Staff			
Teachers in single teacher departments	6,200	6,364	50.2
Teachers in multiple teacher departments	6,652	6,315	49.8
By Kind of Program			
Teachers in full-time production agriculture programs	4,250	4,718	39.0
Teachers in part-time productions agriculture programs and had one or more classes in specialized programs such as Agricultural Supplies, Agricultural Mechanics,	5,877	5,169	42.7
Teachers in full-time specialized programs such as Agricultural Supplies, Agricultural Mechanics, Agricultural Products,	2,058	2,220	18.3

Graduates and Teaching Positions
By States and Regions

There was a close relationship between the regions with the largest number of teaching positions and those producing the largest number of qualified graduates as shown in Table VI. All regions placed 49 percent or more of their respective qualified graduates. The Pacific Region had the highest placement rate with 68.4 percent. Although the Southern Region and the Central Region qualified and placed the largest numbers of teachers, both rates of placement were lower than the other two regions.

TABLE VI

PLACEMENT OF AGRICULTURAL EDUCATION GRADUATES
BY REGIONS IN 1979

Region	Teaching Positions	Number Qualified Graduates	Number Placed in Teaching Vo-Ag	%Placed in Teaching Vo-Ag
Southern	5,836	771	378	49.0
Central	3,867	500	284	56.8
Pacific	1,704	212	145	68.4
North Atlantic	1,365	176	112	63.6

A comparison of the number of teaching positions in each of the states and regions is shown in Table VII. Ten states had over 400 teachers of agriculture in secondary schools. They include Texas, 1571, Ohio 746, California, 682; Minnesota, 624; Florida, 538; Oklahoma 447, North Carolina, 446; Alabama 438, Illinois, 438; and Virginia, 407.

The number of teacher replacements was highest in the Southern Region which required 727 teachers, followed by the Central Region with 615, the Pacific Region with 178, and the North Atlantic Region with 119. The Central Region had the greatest need for teachers on September 1 with 53; the Southern Region, 50; the Pacific Region needed 19; and the North Atlantic Region, 12.

TABLE VII

TEACHING POSITIONS IN VOCATIONAL AGRICULTURE
BY STATES AND REGIONS, SEPTEMBER 1, 1979

North Atlantic Region

State	Total Positions 8/1/79	Number Replacements Employed to 8/1/79	Net Gain in Positions Since 8/1/78	Total Teachers Needed	Teachers Still Needed 8/1/79
New York	365	32	+1	33	2
Pennsylvania	365	40	+2	42	5
West Virginia	111	6	+6	12	1
Maryland	100	10	+2	12	3
Massachusetts	92	8	+2	10	0
New Jersey	71	4	+1	5	0
Connecticut	62	2	+1	3	1
Maine	51	2	+1	3	0
Vermont	50	7	+1	8	0
Delaware	46	2	+1	3	0
New Hampshire	35	4	0	4	0
Rhode Island	17	2	-1	1	0
TOTAL FOR REGION	1365	119	+17	136	12

TABLE VII (continued)

TEACHING POSITIONS IN VOCATIONAL AGRICULTURE
BY STATES AND REGIONS, SEPTEMBER 1, 1979

Central Region

State	Total Positions 8/1/79	Number Replacements Employed to 8/1/79	Net Gain in Positions Since 8/1/78	Total Teachers Needed	Teachers Still Needed 8/1/79
Ohio	756	88	+10	98	3
Minnesota	624	90	-15	75	14
Illinois	438	69	+1	70	5
Wisconsin	354	48	+4	52	6
Missouri	339	43	+7	50	1
Indiana	293	39	+1	40	2
Iowa	280	80	+7	87	6
Michigan	211	20	+3	23	4
Kansas	190	28	+1	29	2
Nebraska	157	48	+1	49	4
North Dakota	140	36	-11	25	4
South Dakota	85	26	+2	28	2
TOTAL FOR REGION	3867	615	+11	626	53

TABLE VII (continued)

TEACHING POSITIONS IN VOCATIONAL AGRICULTURE
BY STATES AND REGIONS, SEPTEMBER 1, 1979

Pacific Region

State	Total Positions 8/1/79	Number Replacements Employed to 8/1/79	Net Gain in Positions Since 8/1/78	Total Teachers Needed	Teachers Still Needed 8/1/79
California	682	36	-46	0	13
Washington	263	27	-1	26	1
Oregon	142	25	0	25	1
Colorado	108	21	0	21	3
Idaho	84	8	0	8	0
Montana	84	12	0	12	0
Arizona	82	19	-1	18	0
New Mexico	77	10	-3	7	0
Utah	70	7	+1	8	1
Wyoming	52	8	0	8	0
Hawaii	25	2	0	2	0
Nevada	25	3	+3	6	0
Alaska (1978)	10	2	+4	6	10
TOTAL [illegible] REGION	1704	180	-43	137	29

TABLE VII (continued)

TEACHING POSITIONS IN VOCATIONAL AGRICULTURE
BY STATES AND REGIONS, SEPTEMBER 1, 1979

Southern Region

State	Total Positions 8/1/79	Number Replacements Employed to 8/1/79	Net Gain in Positions Since 8/1/78	Total Teachers Needed	Teachers Still Needed 8/1/79
Texas	1,571	300	+37	337	15
Florida	538	56	-6	50	8
Oklahoma	447	56	-1	55	0
North Carolina	446	37	-7	30	3
Alabama	438	48	-8	40	3
Virginia	407	36	-4	32	6
Georgia	365	42	0	42	2
Kentucky	327	24	+2	26	1
Louisiana	316	18	+5	23	0
Arkansas	268	44	-2	42	4
Tennessee	267	37	-8	29	0
Mississippi	258	17	0	17	5
South Carolina	188	12	-1	11	3
TOTAL FOR REGION	5,836	727	+7	734	50
TOTAL FOR THE UNITED STATES	12,772	1,641	-8	1,633	144

In addition there were 1,599 teachers of agriculture technicians in technical institutes and junior and community colleges, making a grand total of 14,371 vo-ag teachers in the United States.

Sources of Teacher Replacement

In order to assist with recruitment, an attempt was made to determine the sources from which teacher replacements were hired. There were few major differences among the regions as to the sources of teacher replacement. See Table VIII. Graduates in agricultural education with a bachelor of science degree accounted for 45 percent of the replacement teachers hired in 1979. When all recent agriculture graduates were considered, they represented almost 60 percent of the sources of teacher replacement. It is significant that 33 percent of the sources of teacher replacement were listed as "other", or non-traditional sources.

TABLE VIII
SOURCES OF TEACHER REPLACEMENT
BY REGION IN 1979

Sources of Teacher Replacement	REGION				TOTAL	PERCENT
	Central	North-Atlantic	Pacific	Southern		
Ag Ed, B.S., graduates	233	61	95	315	704	45.1
Ag Ed, M.S., graduates	45	2	1	27	75	4.8
Other agriculture graduates	68	15	32	29	144	9.3
Other education graduates	3	6	1	6	16	1.0
Agricultural business, reentry	43	20	12	33	108	6.9
Discharged from military service	0	0	0	0	0	0.0
Other	146	13	37	318	514	32.9

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Number of Teachers Prepared
By State and Region

Table IX shows that 1,656 persons were prepared for teaching vocational agriculture in the United States in 83 different institutions. Of those individuals, 909 became teachers of vocational agricultura, 247 have chosen agricultural business careers, 178 entered other fields of work, 150 began graduate work, 131 began farming, while 41 were unemployed. The largest number of teachers, 768 were prepared in the Southern Region, followed by 500 in the Central Region. The Pacific Region qualified 212 and 176 were prepared in the North Atlantic Region.

In many states one university has been designated for the preparation of teachers of vocational agriculture. States with more than one institution preparing teachers of vocational agriculture included Texas with 9; Tennessee had 5, California, Illinois, Kentucky, and Louisiana, with 4 each; Arkansas and Wisconsin with 3 each; and Alabama, Delaware, Florida, Georgia, Maryland, Mississippi, North Carolina, and Virginia each with 2.

TABLE IX
GRADUATES IN AGRICULTURAL EDUCATION
BY STATES AND REGIONS DURING THE 1978-79 SCHOOL YEAR

North Atlantic Region

State	Institutions Reporting	Number of Qualified Graduates					
		Teaching Vo-Ag	Agr. Business	Farming	Graduate Work	Other	Total
Connecticut	Univ. of Connecticut	2	3	0	1	0	6
Delaware	Delaware State College	0	0	0	0	0	0
	Univ. of Delaware	6	1	0	2	5	14
Maryland	Univ. of Maryland	6	0	0	1	1	8
	Univ. of Maryland Eastern Shore	1	0	0	2	1	4
Massachusetts	Univ. of Massachusetts	9	2	0	0	0	11
New Hampshire	Univ. of New Hampshire	7	0	1	3	5	16
New Jersey	Rutgers Univ.	5	0	0	2	2	9
New York	Cornell Univ.	18	1	1	2	2	24
Pennsylvania	Pennsylvania State Univ.	40	4	2	0	4	50
Rhode Island	Univ. of Rhode Island	5	0	0	2	5	12
Vermont	Univ. of Vermont	2	0	2	0	2	6
West Virginia	West Virginia Univ.	11	0	1	3	1	16
TOTAL FOR REGION		112	11	7	18	28	176

TABLE II (continued)
GRADUATES IN AGRICULTURAL EDUCATION
BY STATES AND REGIONS DURING THE 1978-79 SCHOOL YEAR
Central Region

State	Institutions Reporting	Number of Qualified Graduates					
		Teaching Vo-Ag	Agr. Business	Farming	Graduate Work	Other	Total
Illinois	Illinois State Univ.	12	5	1	7	4	29
	Southern Illinois Univ.	8	1	0	0	1	10
	Univ. of Illinois	11	3	0	2	4	20
	Western Illinois Univ.	5	3	2	0	0	10
Indiana	Purdue Univ.	15	3	1	2	7	28
Iowa	Iowa State Univ.	35	14	10	0	5	64
Kansas	Kansas State Univ.	24	2	6	2	7	44
Michigan	Michigan State Univ.	14	0	1	2	3	20
Minnesota	Univ. of Minnesota	23	6	3	3	3	38
Missouri	Univ. of Missouri	24	2	5	1	6	38
Nebraska	Univ. of Nebraska	15	3	9	0	3	30
North Dakota	North Dakota State Univ.	18	3	2	0	5	28
Ohio	Ohio State Univ.	23	8	3	3	12	49
South Dakota	South Dakota State Univ.	12	6	4	1	1	24
Wisconsin	Univ. of Wisconsin, Madison	8	4	0	2	0	14
	Wisconsin State Univ., Platteville	9	2	1	1	1	14
	Wisconsin State Univ., River Falls	28	8	3	1	3	43
TOTAL FOR REGION . . .		284	73	51	27	65	500

TABLE II (continued)

GRADUATES IN AGRICULTURAL EDUCATION
BY STATES AND REGIONS DURING THE 1978-79 SCHOOL YEAR

Pacific Region

State	Institutions Reporting	Number of Qualified Graduates					
		Teaching Vo-Ag	Agr. Business	Farming	Graduate Work	Other	Total
Arizona	Univ. of Arizona	9	3	1	1	2	16
California	California State, Fresno	8	2	0	0	0	10
	California State, Pamona	10	2	0	1	0	13
	California State, San Luis Obispo	20	2	1	1	2	26
	Univ. of California, Davis	6	0	2	0	0	8
Colorado	Colorado State Univ.	10	2	4	0	0	16
Idaho	Univ. of Idaho	5	1	1	3	1	11
Montana	Montana State Univ.	10	1	3	1	2	17
Nevada	Univ. of Nevada	1	3	0	1	2	7
New Mexico	New Mexico State Univ.	13	2	0	3	0	18
Oregon	Oregon State Univ.	17	1	2	1	1	22
Utah	Utah State Univ.	10	1	1	0	0	12
Washington	Washington State Univ.	22	2	3	0	3	30
Wyoming	Univ. of Wyoming	4	0	0	1	1	6
TOTAL FOR REGION		145	22	18	13	14	212

TABLE IX (continued)

GRADUATES IN AGRICULTURAL EDUCATION
BY STATES AND REGIONS DURING THE 1978-79 SCHOOL YEAR

Southern Region

State	Institutions Reporting	Number of Qualified Graduates					
		Teaching Vo-Ag	Agr. Business	Farming	Graduate Work	Other	Total
Alabama	Alabama A & M College	5	3	0	6	6	20
	Auburn Univ.	29	0	5	1	6	41
Arkansas	Arkansas State Univ.	12	1	2	1	3	19
	Univ. of Arkansas, Fayetteville	12	1	1	0	0	14
	Univ. of Arkansas, Pine Bluff	2	1	0	1	1	5
Florida	Florida A & M Univ. (1976)	6	0	0	2	0	8
	Univ. of Florida	18	0	2	5	8	33
Georgia	Fort Valley State College	1	1	0	0	0	1
	Univ. of Georgia	13	0	0	0	2	15
Kentucky	Morehead State Univ.	4	2	0	1	1	8
	Murray State Univ.	7	5	1	1	1	15
	Univ. of Kentucky	4	14	4	3	12	37
	Western Kentucky Univ.	7	3	1	5	2	18
Louisiana	Louisiana State Univ.	7	2	0	4	1	14
	Louisiana Tech Univ.	4	0	0	1	1	6
	Southern Univ.	3	0	0	2	2	7
	Univ. of S.W. Louisiana	8	0	0	0	2	10
Mississippi	Alcorn State Univ.	1	9	0	0	0	10
	Mississippi State Univ.	7	12	4	1	2	26

TABLE IX (continued)

GRADUATES IN AGRICULTURAL EDUCATION
BY STATES AND REGIONS DURING THE 1978-79 SCHOOL YEAR

Southern Region

State	Inatitutions Reporting	Number of Qualified Graduatea					
		Teach-ing Vo-Ag	Agr. Busi-ness	Farm-ing	Gradu-ate Work	Other	Total
North Carolina	A & T State Univ.	3	2	0	4	2	11
	North Carolina State Univ.	16	4	2	7	4	33
Oklahoma	Oklahoma State Univ.	55	4	2	2	4	67
South Carolina	Clemson Univ.	4	3	1	4	1	13
Tennessee	Middle Tenneasee State Univ.	7	3	2	2	0	14
	Tennessee State Univ.	1	0	0	0	0	1
	Tennessee Tech Univ.	3	1	0	0	0	4
	Univ. of Tenn. Knoxville	6	0	0	1	5	12
	Univ. of Tennessee, Martin	0	2	2	1	0	5
Texas	East Texas State Univ.	14	7	4	5	2	32
	Prairie View A & M College	0	1	0	2	4	7
	Sam Houston State Univ.	23	7	1	5	0	36
	Southwest Texas State Univ.	5	9	1	0	2	17
	Stephen F. Austin State Univ.	8	6	1	1	1	17

	Tarleton State Univ.	20	5	7	3	7	42
	Texas A & I Univ.	5	2	0	1	6	14
	Texas A & M Univ.	13	18	4	12	10	57
	Texas Tech Univ.	18	8	5	6	5	42
Virginia	Virginia Polytechnic Inst. and State Univ.	14	6	3	1	4	28
	Virginia State Univ.	3	0	0	1	5	9
TOTAL FOR REGION		368	141	55	92	112	768
TOTAL FOR UNITED STATES		909	247	131	150	219	1656

Suggestions to States
With Teacher Shortages

Tables X and XI are included to aid those who wish to locate additional teachers from other states. A comparison of the number of teachers qualified and the numbers employed but not teaching in Table X, shows that all of the regions had an appreciable number of qualified persons accepting other positions. It is also emphesized that only 6.7 percent of the qualified teachers (same as last year) left their home states to find employment in vocational agriculture elsewhere.

TABLE X

PLACEMENT OF GRADUATES IN NON-VO-AG TEACHING POSITIONS AND OUTSIDE THE STATE BY REGION IN 1979

Region	Teachers Qualified	Employed But Not Teaching Vo-Ag	Employed Outside the State
Southern Region	768	276	38
Central Region	500	169	23
Pacific Region	212	51	25
North Atlantic	176	42	25
TOTAL	1,656	538	111

Table XI lists the states by percentage of placement of agricultural education graduates in vocational agriculture positions. There were 27 states that had a placement percentage above the mean, which was 54.9 percent. There were 20 states that had a placement percentage below the national average. There is a very wide range of percent placement among the states, i.e., 14.3 to 87.5. The listings of high and low placement percentage states may be an indication of the high and low teacher supply states, respectively.

TABLE XI
PLACEMENT RATES OF AGRICULTURAL EDUCATION GRADUATES
IN VOCATIONAL AGRICULTURAL POSITIONS
BY STATE

State	Percent Placement	State	Percent Placement
Georgia	87.5	Iowa	54.7
Utah	83.3	Indiana	53.6
Oklahoma	82.1	Illinois	52.2
Massachusetts	81.8	Nebraska	50.0
Pennsylvania	80.0	South Dakota	50.0
Oregon	77.3	Tennessee	47.2
California	77.2	Ohio	46.9
New York	75.0	Virginia	45.9
Washington	73.3	Idaho	45.5
New Mexico	72.2	New Hampshire	43.8
West Virginia	68.8	North Carolina	43.2
Arkansas	68.4	Delaware	42.9
Michigan	66.7	Rhode Island	41.7
Wyoming	66.7	Texas	40.2
North Dakota	64.3	Connecticut	33.3
Wisconsin	63.4	Veraont	33.3
Missouri	63.2	South Carolina	30.8
Colorado	62.5	Kentucky	28.2
Minnesota	60.5	Mississippi	22.2
Louisiana	59.5	Nevada	14.3
Montana	58.8		
Florida	58.5		
Kansas	58.5		
Maryland	58.3		
Arizona	56.3		
Alabama	55.8		
New Jersey	55.6		

(National average 54.9)

APPENDIX A

DUE OCTOBER 1, 1979

RETURN TO: Dr. David G. Craig
Department of Vocational-Technical Education (Agriculture)
225 Morgan Hall, UTK
Knoxville, TN 37916

PLEASE - Return by October 1, 1979

SURVEY OF TEACHER DEMAND IN
VOCATIONAL AGRICULTURE IN 1979

Name _____ Position _____ State ____

1. Number of teachers of vocational agriculture employed in your state during 1978-79 school year. ____ (Do not include teachers in technical institutes and community colleges.)

2. Number of replacements required for the above teachers during the past year. ____

3. Of the replacements hired, how many were:
   a. Ag Ed, B.S., 1979, graduates ____
   b. Ag Ed, M.S., 1979, graduates ____
   c. Other agriculture, 1979, graduates ____
   d. Other education, 1979, graduates ____
   e. Agricultural business, re-entry ____
   f. Discharged from military service ____
   g. Other _____ ____

Total replacements should match No. 2 above ____

4. Number of new and additional positions in teaching vocational agriculture which became available during the past year (7/1/78 to 6/30/79). ----------_____

   Number of positions discontinued ----------_____

   Net gain or loss in number of positions during the past year ----------_____

5. Number of vocational agriculture teachers still needed (9/1/79) but not available in your state. _____

6. Number of vocational agriculture teachers last year who held emergency or temporary certificates. _____

7. Number of departments which probably will not operate this year because of a shortage of teachers. _____

8. Of the total number of vocational agriculture teachers reported

In Item 1, how many teachers:

8.1 Taught junior high school or middle school classes only. _____

8.2 Taught high school classes only. _____

8.3 Taught both high school and out-of-school classes (adult and/or young farmer classes). _____

8.4 Taught adult and/or young farmer classes only (including vet classes). _____

(8.1 + 8.2 + 8.3 + 8.4 should equal the number of teachers reported in Item 1.)

How many teachers reported in Item 1:

8.5 Taught in general or comprehensive high schools. _____

8.6 Taught in vocational high schools. _____

8.7 Taught in area vocational high schools. _____

(8.5 + 8.6 + 8.7 should equal the number of teachers reported in Item 1.)

How many teachers reported in Item 1:

8.8 Taught in single teacher departments. _____

8.9 Taught in multiple teacher departments. _____

(8.8 + 8.9 should equal the number of teachers reported in Item 1.)

How many teachers reported in Item 1:

8.10 Taught full time in production agriculture programs. _____

8.11 Taught part time in production agriculture programs and had one or more classes in specialized programs such as agricultural supplies or ornamental horticulture. _____

8.12 Taught full time in specialized programs such as agricultural supplies or ornamental horticulture. _____

8.10 + 8.11 + 8.12 should equal the number of teachers reported in Item 1.)

9. In addition to the teachers of vocational agriculture reported in Item 1, how many were employed as teachers of agriculture in post high school institutions such as community colleges, technical institutes, or area schools? _____

Please check your addition

APPENDIX B

DUE OCTOBER 1, 1979

RETURN TO: Dr. David G. Craig
Department of Vocational-Technical Education (Agriculture)
225 Morgan Hall, UTK
Knoxville, TN 37916

PLEASE – Return by October 1, 1979

SURVEY OF TEACHER SUPPLY IN VOCATIONAL AGRICULTURE IN 1979

1. Total full-time, four-year degree undergraduate enrollment in your institution:

   1.1 In Agriculture (not including Home Economics, Business, Hotel Administration.) _____

   1.2 In Agricultural Education. _____

2. Number qualified for teaching vocational agriculture from your college or university 7/1/78 to 6/30/79. _____

3. Given those qualified above, indicate their employment status as of 9/1/79: (Please check your addition.)

   3.1 Teaching Vo-Ag ___ 3.6 Armed Forces ___

   3.2 Teaching other subjects ___ 3.7 Other (including foreign students) _____

   3.3 Ag Business ___ 3.8 Unemployed or still available _____

   3.4 Farming ___

   3.5 Graduate work ___

4. Of those qualified during 7/1/78 to 6/30/79, how many were employed in Vo-Ag outside your state? _____

4.! Of the graduates who took Vo-Ag jobs in other states, please list the number going to each state.

STATE	NUMBER	STATE	NUMBER

Signed _____ Institution _____

Vocational and Industrial Arts Teacher Supply (By Donald Maley, Professor and Chairman, Industrial Education Department, University of Maryland, College Park, Md.)

The issue of vocational supply is one of the most critical that faces the profession at present and in the future. Quality education and specifically, quality vocational education is dependent upon an adequate supply of well-trained and competent teachers.

Where other areas of the educational system have experienced excesses of trained teachers, the areas of vocational education and industrial arts have been experiencing serious shortages in most states. The extent of the vocational teacher need is one that demands immediate attention in view of the lead time required to adequately recruit and prepare such persons.

This report is intended to provide the data regarding vocational teacher needs as revealed in four national studies conducted in the past two years. The specific needs in vocational education and industrial arts are treated separately. Also, a brief statement commentary on in-service needs is included to assure that this dimension of the problem is not overlooked.

Vocational Teacher Shortage. The need for teachers in vocational education extends into practically every area of occupational preparation. A major study of vocational teacher need on a nationwide scale was conducted by Gray, Zeigler, and Woolf at the National Center for Research in Vocational Education. Findings in this study revealed that the estimated need for additional teachers by fiscal year 1981 would be between 117,000 and 200,000 teachers. (1, p.71)

The vocational areas that will experience the greatest need for teachers in 1979 and 1981 are trade and industry, office, and health. (1, p.71). The areas of distribution and agriculture were the next highest in need for teachers. The lowest demand for teachers was in the areas of technical, home economics occupational, and consumer and homemaking. (1, p.28). See Table I.

TABLE I

Rank Order of Estimated Needs for Teachers
by Program Areas and Years

	1979 Rank Order	1981 Rank Order
Trade and Industry	1	1
Office	2	2
Health	3	3
Distribution	4	6
Agriculture	5	7
Technical	6	4
Home Economics Occupational	7	8
Consumer and Homemaking	8	5

The rank order of need experiences minor adjustment in 1981 over that of 1979. Significant changes in rank are predicted for consumer and homemaking (8 to 5) distribution (4 to 6), technical (6 to 4) and agriculture (5 to 7).

One of the major contributing factors to the high need for vocational teachers is the impact of teacher turnover. This teacher turnover is estimated to range between a high of 13 percent to a low of 7 percent annually.

The ...edian turnover was estimated at 11 percent. Table II contains a complete presentation of the vocational teacher need by areas for 1979 and 1981, with the assumption of the three levels of teacher turnover. (1, p.29).

The problem of teacher shortage in the area of vocational agriculture were stressed in a report by James A. Knight and John W. Dickens titled: "Why Vocational Agriculture Teachers Enter, Remain in, or Leave Teaching." It was their conclusion that 100 vocational agriculture departments would not continue to operate in 1978-179 due to the teacher shortage. (2, p.5).

Another fact of importance in such a teacher shortage analysis is that agriculture education in 1978 employed 511 temporary or emergency certificated teachers. (2, p.3).

The turnover rate among vocational agricultural education teachers in 1978-79 was 11.1 percent. This factor had an impact on the need for such teachers. The percent of agricultural teacher turnover "... has ranged from 9 to 12 percent for each of the past 14 years (1964-1978). (2, p.2).

Industrial Arts Teacher Shortage. One of the areas of severe teacher shortage is that of Industrial Arts. This fact is borne out by two recent studies conducted on a national scale.

Dr. Rex Miller, in a nation-wide study reported in the September, 1978 issue of Industrial Education Product Guide, indicated that there were 3475 Industrial Arts classes (1977-78) not held due to shortage of teachers. He also reported that there would be a national shortage 838 to 888 teachers of Industrial Arts in 1978-79. (3, p.25).

Another national study conducted by Dr. Donald Smith revealed that twenty one states reported a severe shortage of Industrial Arts teachers, while another twenty states were having a moderate shortage of these teachers.

The impact of the Industrial Arts teachers shortage takes on many dimensions. Perhaps the most serious is its effect on the educational program of youth at that very important exploratory stage in their life. Some additional effects include the following:

1. There is the concern for the quality of persons hired to teach Industrial Arts since the schools can not be selective in their hiring.
2. The practice of hiring unqualified teachers provides for further concern. "... It was reported that in one state 70 of its 1,000 teachers of Industrial Arts were 'completely unqualified'." (4, p.12)
3. Curriculum changes and the impact on funding special projects in Industrial Arts were also effected by the teacher shortage problems. "... Two states had their curriculum change efforts slowed considerably by the teacher shortage and unqualified teachers. Outside funding had to be cancelled in two school systems where teachers could not be found." (4, p.12)
4. Such shortages in Industrial Arts teachers have impacted on the established standards of education in certain areas. Programs were closed even though state minimum standards required that Industrial Arts programs be operated in each school system. (4, p.12)
5. The numbers of students who are unable to get Industrial Arts courses is another resultant of this shortage. It was reported by Miller that 30,497 students in one state had showed an interest in selecting Industrial Arts courses but were unable to take the classes due to the lack of teachers. (3, p.23)

The 5 1th study revealed that eighteen state supervisors of industrial Arts reported several programs in each of their states were closed due to lack of teachers. (4, p.12)

Inservice Education. Aside from, and in addition to the issue of getting enough qualified teachers is the vital task of continually upgrading the teachers, administrators, and supporting staff. This is commonly referred to as inservice education.

The increased importance of inservice education in the field of vocational education is due to a number of realities directly associated with the nature of the personnel and the function of this area.

1. Foremost among the propositions for increased need for inservice education for vocational teachers and other support personnel is the fact that the content of the vocational area is one of the most changing and continually evolving of all content areas in the school.
2. The increased tenure of men and women teaching vocational education brings with it the need to re-tool and re-vitalize the teacher in order to keep abreast of the changing technologies associated with all areas of vocational education. The actual half-life of a vocational teacher is comparable to that of the engineer or approximately five years.
3. The vocational programs must reflect the content, skills, and requirements of the present and the future. The product of vocational education can not lag behind the current needs of business of industry. No other area of the school has such a requirement for currency in its content since the accountability process begins with that first step of the student

from the school into the world of work.

4. The great need for inservice education for the vocational teacher is further accentuated because of --
   a. the mainstreaming of special needs students into the program
   b. the inclusion of the adult education population as a vital component of the program
   c. the carrying out of the Federal mandates with respect to sex equity, bi-lingual efforts, and minority involvement
5. Vocational instructional and support personnel have a greater need for flexibility in order to facilitate programmatical changes so vital to the needs of business and industry.

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2. Knight, James A., and John W. Dickens. "Why Vocational Agriculture Teachers Enter, Remain in, or Leave Teaching." A report prepared for the Agricultural Education Division, American Vocational Association Convention, Dallas, Texas. 1978.

3. Miller, Rex. "Industrial Arts Supply and Demand." Industrial Education Product Guide. September, 1978, pp. 23-25.

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PART I

A RATIONALE FOR THE CONTINUATION AND/OR EXPANSION OF THE VOCATIONAL GRADUATE LEADERSHIP DEVELOPMENT PROGRAM

Presented by: Dr. Donald Maley
President
The Association of Universities for
Vocational Leadership Development

The plea for a continuation and/or expansion of the graduate leadership development program in vocational education may be stated on the basis of need as well as on performance.

. . . The need may be classified as urgent since the continued growth of vocational education has created a crisis of leadership capable of dealing with the complex task of educating young people, many of whom the regular schools have failed, and at the same time educating productive workers in a fast-moving industrial and business world.

. . . Vocational education is currently moving into the critical period of a second generation need for leadership personnel. The leadership that came in with the enormous expansion following the 1963 Vocational Legislation are now in the process of retirement, thus creating a large number of openings for personnel requiring even more sophisticated skills than their predecessors. The continued growth in vocational programs and the need for special competencies and understandings in vocational education creates an urgent need to provide the special kinds of leadership personnel for

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Dr. Donald Maley is Professor and Chairman, The Industrial Education Department, University of Maryland, College Park, Maryland.

an educational component that is vastly different than the ordinary secondary school.

. . . The need for new and better educated leadership personnel in vocational education is also tied to the national priorities of energy and productivity. These are elements with strong linkages to vocational education and not commonly associated with the usual preparation of school leadership personnel.

. . . The current economic conditions facing many of the universities have had an adverse effect on programs in vocational education as the offerings of the institutions move toward the traditional, classical programs. The leadership development program provided quality students as well as a certain amount of financial assistance to help maintain the vocational graduate programs.

. . . The graduate leadership development program in vocational education has been a highly successful program during this past decade. It has produced a broad range of leadership personnel, many of whom have earned doctorates in the field of vocational education. The leadership positions held by such persons include:

State Directors of Vocational Education
Local Directors of Vocational Education
Local Coordinators of Vocational Services
University and College Faculty
Principlas of Vocational Centers
University Deans
Community College Administrators
State Department of Education Personnel
National Leadership Persons
Industry Executives
County and Local School Administrators

. . . The graduate leadership development program in vocational education has had a prominent role to play in institutions across

the nation because it gave birth to a network of universities having a common bond in graduate studies. Two important national organizations have grown out of the program. They are: The Association of Universities for Vocational Leadership Development; and The University Council for Vocational Education.

. . . Perhaps the greatest return from the program has been the product itself, which is the people who have been educated in it. The program attracted a number of bright, capable young people into the leadership ranks of vocational education. Vocational education has had a new source of educated administrators and specialists who came up through the system and were given graduate programs to meet the challenges of the 80's.

. . . The vocational graduate leadership development program is a good investment that will have a significant payoff. The effectiveness of vocational programs is highly dependent on good leadership. The training of capable vocational leadership personnel will result in better management of vocational programs at the national, state, and local levels.

. . . One other dimension of the graduate leadership development program in vocational education that is highly significant is that it provided an opportunity for upward mobility on the part of many young people who could not afford the cost of full-time graduate study. The vocational teacher or the vocational leadership awardee is not from the affluent sector of society. These vocational personnel were given an opportunity that for the most part was available only through such a program.

. . . Finally, the need for the Vocational Graduate Leadership Development program may be based on the issue of quality. Effective programs in vocational education at all levels requires good effective leadership. Quality in teaching, placement, school construction, program development, special needs programs, community analysis, productivity or energy education are all dependent upon good leadership. The special needs of vocational leadership personnel must be met if quality is to be achieved.

PART II

TRAINING AND DEVELOPMENT PROGRAMS

IN THE AREA OF VOCATIONAL EDUCATION PERSONNEL DEVELOPMENT

(Suggestions for Legislation)

The Graduate Leadership Development Program

Purpose: To develop the needed leadership personnel in the field of vocational education, --

through

an award program in graduate leadership development that would enable capable, experienced vocational educators to pursue full-time study toward the goal of developing the necessary background to assume administrative and other leadership positions.

Awards. The Secretary of Education would make awards to experienced vocational educators (teachers, researchers, guidance counselors, administrators, teacher educators) who qualify for entrance into graduate training in the varied areas of leadership needed in vocational education. Such persons would be awarded an opportunity to study at approved institutions of higher education meeting the established criteria for institutional participation in such a program.

Period of Awards: Awards will be made for a maximum of 36 months for persons in the initial selection. Persons completing their programs of study in less than 36 months will be replaced by an alternate for the remaining period of the award program. All awardees will attend approved institutions meeting criteria for eligibility and participation in such a program.

Institutional Eligibility: There are a number of criteria that may be applied to the institution of higher education that may determine its eligibility.

1. An accredited graduate program in the area of vocational education.
2. Accredited programs in at least five of the service areas of vocational education at the graduate level. (Agriculture, home economics, business, distributive, guidance, health, industrial arts, trades and industry, etc.).
3. Availability of resources at the institution relative to the graduate programs in vocational education. (library holdings, faculty, physical plant, community resources, internship potentials).
4. Availability of supporting programs contributory to effective leadership development in vocational education, such as programs or departments in economics, counseling, sociology, psychology, research and statistics, urban studies, and government and politics.
5. There are opportunities for graduate training in vocational education in such areas as teaching, research, community analysis, minority education, sex equity education, counseling, teacher education, curriculum, administration, energy, production, and community development.
6. The (minimum) five service area programs in the insitution are each represented on the graduate faculty of the institution.
7. There are close ties and working relationships between the

vocational programs and the larger community, agencies, industries, businesses, schools (secondary and post-secondary), private schools, local and state governments, and state educational agencies.

8. There is an active program of interaction and linkage between special education and the vocational programs.
9. The graduate programs in vocational education are sufficiently flexible to permit the development of individualized programs geared to the specific goals of the person as well as needs in the field.
10. There is the potential as well as capability for first-hand experiences through educational apprenticeships and internships as an integral part of the awardee's program.
11. There are opportunities for non-formal leadership development activities related to colloquia, seminars, conference participation, professional organizations, and advisory council participation.
12. Institutions alone not meeting the criteria may form a consortium with other institutions having complementary vocational programs in order to meet the requirements as set forth. Consortia shall be operated such that there will be a singularity of the graduate program in vocational education in all aspects of admissions, program planning, graduate faculty status and administration.
13. The selection of eligible institutions shall be made on a point score basis with twenty institutions being identified

for participation in the program.

14. The number of awardees for each institution shall range from six to twelve based on the awardee applicant's listing of first, second, and third

15. The qualifications for awardees shall be interpreted to mean that the minimum qualifications (measured by undergraduate GPA or either the Miller Analogies Test or the Graduate Record Examination) should not be below the average of students admitted to graduate programs in eligible institutions for the previous two-year period.

CONGRESS OF THE UNITED STATES
HOUSE OF REPRESENTATIVES
COMMITTEE ON EDUCATION AND LABOR
SUBCOMMITTEE ON SELECT EDUCATION
617 HOUSE OFFICE BUILDING ANNEX #1
WASHINGTON, D.C. 20515

December 2, 1981

Honorable Carl D. Perkins
Chairman
Subcommittee on Elementary,
Secondary & Vocational Education
B346C Rayburn House Office Building
Washington, D.C. 20515
INSIDE MAIL

Dear Carl:

Since your Subcommittee has jurisdiction over the Vocational Education Act, I am forwarding to you a letter from Carroll K. Jones which provides both some observations and suggestions relative to this program. As part of the Subcommittee's oversight and reauthorization of the Act, I would like to request that Mr. Jones' letter be included in the printed hearing record.

I appreciate your attention to this request.

Very truly yours,

Austin J. Murphy
Chairman

AJM:cr
Enclosure

cc: Carroll K. Jones

Route 1
McGaheysville, VA 22840
November 10, 1981

The Honorable Austin J. Murphy
Member
Education and Labor Committee
House of Representatives
Washington, DC 20515

Dear Mr. Murphy:

As one who has been on the public education "firing line" for some twenty-five years in positions ranging from classroom teacher to vocational center principal, I would like to take this opportunity to share some observations and even make a few suggestions relative to Federal funding for vocational education.

As principal of a ten-year-old regional vocational technical center with a secondary enrollment of nearly 550 and an adult enrollment in excess of 2400, I see one thread that seems to weave itself through all aspects of Federal funding and Federal involvement in vocational education. As more and more Federal monies are appropriated, particularly in the area of "program improvement," the first priority for these appropriations seems to be to increase the size of the bureaucracy charged with the administration of the funds. As a result, fewer and fewer dollars designated to help classroom teachers and local administrators implement new techniques and innovative programs are actually available to those of us on the "front lines".

In addition, many of these so-called "innovations," the result of funding program improvement projects through ivory-tower teacher educators rather than at the grass roots, have done nothing but frustrate and confuse teachers and administrators at the local level. Vocational education has been researched, developed, reviewed and revaluated to death. The time has come to put the money where the action is.

We are all faced with the task of helping our nation regain its economic health. Vocational education, by its very nature, is in a unique position to assist in this economic development through technical training and job creation. It is imperative, however, that we modernize or replace our aging equipment in order that our students receive training on equipment that is not totally out of step with our modern technological society.

I feel that the thrust in Vocational Education, especially at the local level, is a proper one. Private business and industry are getting more deeply involved in vocational education programs, a healthy sign and a positive indication that we are meeting their training needs. However, government must continue to support the improvement of vocational education programs through appropriations of funds.

I would therefore urge the Congress to examine very carefully those agencies and institutions in which the money is spent, thereby hopefully allowing a bigger piece of the pie to go to the local level where the action is rather than perpetuating the bureaucracy at the higher levels. If we want to see real innovations and worthwhile theories put into practice, let's give local teachers the wherewithal with which to do it.

Sincerely,

Carroll K. Jones

CLK/lw